

NEWS BULLETIN

OF THE

ZOOLOGICAL SOCIETY

Number 1.

Issued by the NEW YORK ZOOLOGICAL SOCIETY, 69 Wall St., N. Y.

June 1, 1897

GRANT OF SOUTH BRONX PARK.

THE MAYOR AND SINKING-FUND COMMISSIONERS UNANIMOUSLY ACCEPT THE PROPOSALS OF THE ZOOLOGICAL SOCIETY.

On Wednesday, March 24th, at 4 o'clock P.M., the New York Zoological Park was officially established. General Anson G. McCook, City Chamberlain, and Chairman of the Special Committee to which the Society's application was referred, presented a resolution which had been prepared by Francis M. Scott, Counsel to the Corporation, for the express purpose of bringing the proposed Zoological Park into official existence. This resolution is very lengthy, and embodies the terms of what is really an elaborate and carefully wrought-out agreement for the future relations between New York City and the Society. Its terms are entirely satisfactory to the Zoological Society, and it received the vote of every member of the Sinking-fund Commission, as follows: Mayor Strong, Comptroller Fitch, City Chamberlain McCook, Recorder Goff, and Alderman Oakley.

This result of the Society's negotiations for the past twelve months with the city authorities is most gratifying. The Society's proposals have, with some very reasonable modifications, been met most cordially by Mayor Strong, his Cabinet, and the Park Commissioners; and through these officers the city has consented to bear its fair share of the burden of establishing here a free Zoological Park—founded by the people, for the people.

From this time forward the duty of fulfilment rests upon the shoulders of the Society. It must not only plan successfully, but it must successfully execute. The undertaking is a very great one, considering how much the Society desires to accomplish within a short

ADVANTAGES OF MEMBERSHIP.

Beyond question, there are in Greater New York and vicinity enough men and women who are interested in popular zoology to form one of the most powerful and influential zoological societies in the world—provided they can be brought together. It is necessary that all who love and desire to protect animals, all our zoologists, all our sportsmen, our teachers, all our natural painters and their friends, our business and professional men who need recreation afield, and, above all, parents with growing children—all should feel that this is their affair. The Zoological Park will be what they make it.

Besides the large sum of money that is to be raised by subscription, the Society must have the co-operation and the financial support of a large permanent membership. Each member will contribute \$10 per year towards the Society's work, in the form of annual dues. Three thousand annual members means an annual income of \$30,000, and the accomplishment of great ends. The membership of the Zoological Society of the comparatively small city of Antwerp now stands at the handsome total of five thousand persons.

Among the advantages of membership are, first of all, the satisfaction of taking part in a great popular enterprise of the utmost interest to every lover of Nature and her works. Of direct practical benefits to members are the following: Admission to the Zoological Park on the two days of each week when to the general crowds it will be closed, except by admission fee; the privileges of the proposed library building, the library, and its picture collections; the receipt of the Society's publications, many of which will undoubtedly possess considerable artistic and literary value, and will be free to members only; the

A CALL FOR FRIENDS AND FUNDS.

For the erection of animal buildings, aviaries, and other enclosures, and for the purchase of a fine series of mammals, birds, and reptiles with which to fill them, the New York Zoological Society requires \$250,000.

The City of New York has agreed to do its share towards the establishment and maintenance of a great zoological pleasure-ground in a portion of the wilderness. It remains for the citizens of the second and wealthiest city in America to do their part towards the creation of the Society Fund which must be raised forthwith. It is the good American custom not to rely upon taxation alone, but for the public-spirited citizen to plan and assist the tax-payer.

Fortunately for the friends of the Zoological Park, there is a rapid increase of public spirit, and of pride in our public institutions. We have already made substantial progress. Twenty years ago New York had little to show. People who wished to see particularly beautiful or interesting public buildings and collections found it necessary to visit London, Paris, Vienna, or Berlin. Now, however, this condition is swiftly changing. In ten years more New York City will contain one of the finest museums of natural history in the world. Already its Museum of Art is the best on this continent, and, unless all signs fail, three more institutions of grand proportions will rise simultaneously during the next five years—the Public Library, the Botanical Gardens, and the Zoological Park.

The power to contribute and take part in building up these institutions is a privilege not granted to all. In this city there are thousands of men and women who would gladly give money to the Zoological Society Fund—if they had it to give. But surely there are enough persons who can give, and who are in sympathy with this important undertaking, to supply

two years carefully planning and determining exactly what it wishes to do, and how it is best to go about it. The principles involved in the arrangement of the collections are laid down by the laws of experience and common-sense. The various physical features of South Bronx Park themselves determine the uses to which its different portions shall be put. There are comparatively few difficult problems to be solved.

As has already been stated, the key-note of the work to be done is the adaptation of Nature's own handiwork rather than the alteration and emendation of it. Thus far the Society's original intention "to reproduce natural conditions" has been closely adhered to. The zoologists who have examined the Zoological Park site have been fairly captivated by its wonderful perfection and adaptability to the end in view, and thus far the plans for its utilization have received their unanimous approval.

THE ANNUAL REPORT.

On March 24th the Zoological Society issued its First Annual Report. It makes a handsome octavo pamphlet of sixty-three pages, and is a fairly complete history of the organization and work of the Society up to January 5, 1897.

Among its leading features may be mentioned a carefully prepared prospectus, entitled "The New York Zoological Society: Its Field and Purposes"; the annual report of the Executive Committee; the official report of the Director on South Bronx Park, and also on his "Tour of Inspection of European Zoological Gardens." These are followed by the Treasurer's statement, various official papers, and a very interesting communication from Mr. Ernest Seton Thompson in regard to "The Privileges of Artists in the Zoological Park."

Of illustrations the volume contains a fine bird's-eye view of South Bronx Park (from a photograph of the topographic relief model prepared by the Director), two half-tone illustrations representing "The Zoological Garden Idea" and "The Zoological Park Idea," and the Consulting Architect's ground-plans of the lion-house and monkey-house. There is also a folding map showing the plan of the proposed Zoological Park, and a sketch map showing its location and present means of access.

A copy of this report will be mailed to any one who desires full information regarding the Society with a view to becoming a member or otherwise aiding in its work.

Street, or to the Director of the Zoological Park, at the Society's office, No. 69 Wall Street.

There is no initiation fee. The annual dues for Members are \$10; the Life Member's fee is \$200; Patron's fee, \$1000; and Founder's Fee, \$5000.

FUND FOR GROUND IMPROVEMENTS.

In the formation of the Society's plans for the Zoological Park, it became apparent that a very considerable amount of improvement work would be required to prepare the grounds for the reception of buildings and to provide for the comfort and convenience of the public. At present the Zoological Park site contains not a foot of concrete walk, no shelter, no sewerage, nor even a Croton-water hydrant. At one point a sewer opens into the park, and sends a foul stream flowing openly into the Bronx River, nearly half a mile away. What should be beautiful ponds and lakeslets are now marshes and bogs.

It is the unanimous opinion of all parties interested in the Zoological Park, city officials as well as members of the Zoological Society, that it is the duty of the city to bear the expense of making the ground in question available for the public, and for the uses to which it is to be put. By the advice of the Park Commissioners, a bill was drawn to provide \$125,000 by the issue and sale of bonds, to meet the cost of the long list of ground improvements found to be necessary. Hon. W. W. Niles, Jr., kindly consented to secure its passage by the Legislature, if possible, at this session. By him it was placed in the hands of Senator Page and Assemblyman Austin, who introduced it simultaneously in their respective houses, and pushed it with special interest. Thanks to their vigorous efforts, and in spite of the very late day on which the bill was introduced, it was passed by both houses, promptly received the approval of the Mayor, received the Governor's signature with equal promptness, and is now a law.

The prompt passage of this vitally important measure, and at this juncture, is very gratifying. It means that the development of the Zoological Park will march steadily forward, provided the Society is successful in its effort to secure subscriptions to the amount of \$100,000 within the next sixty days. If this can be accomplished by the time the improvement plans are completed, and approved by the Park Commissioners, no time will be lost. The act provides that the fund shall not be available until the Zoological Society has raised by subscription at least \$100,000 of the total \$250,000 required for its buildings and collections.

never can be a money-making enterprise, it is entirely proper for the Society to obtain desired objects by donation whenever it is possible to do so.

It is earnestly hoped that the Endowment Fund of the Society may come in for a fair share of subscriptions and bequests. In the encouragement of animal painting and sculpture, money for prizes is imperatively necessary, and it is to be hoped that funds for that special purpose will be offered.

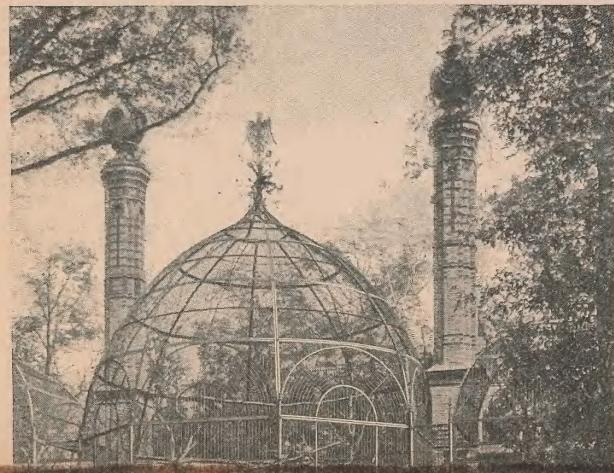
Coincident with the official action of the Mayor and the Sinking-fund Commission, the Board of Managers began the circulation of papers calling for subscriptions to the Society Fund. It is necessary that \$250,000 shall be subscribed, of which \$100,000 must be pledged before any work on the Zoological Park can begin. This latter sum is imperatively necessary, and should be obtained by August 1st.

The plans for buildings and other permanent improvements will very shortly be submitted to a carefully selected body of experts, and will finally be laid before the Park Commissioners for their consideration. The plan of the entire Zoological Park, and the details of all its various features, will be made as perfect as human knowledge and experience can make them before any work is begun. Three classes of experts will be consulted—first, landscape-gardeners, to advise regarding the location of the roads and paths, and in the treatment of the landscape features; second, field naturalists, to advise in the care of the different types of animals in the park; third, zoological garden experts, regarding the locations, general design, lighting, ventilation of the buildings and other enclosures. Every possible precaution will be taken against mistakes. The various buildings must be not only commodious and comfortable for the animals within them, but they must also be pleasing and beautiful to the eyes of the visitor.

The friends of this undertaking are now invited to aid it by increasing the membership, by raising money for the Society Fund, and by contributing zoological books to the Society's library. Other cities are watching to see what measure of success we attain in this great undertaking; and there will never be a time when help will be so much appreciated as during the present year. Thus far not a day has been lost through mistakes or unnecessary delays, and it is to be hoped that this good record may be preserved unbroken until the Zoological Park is formally opened to the public.



LONDON GARDENS—INTERIOR OF THE REPTILE-HOUSE.

ANTWERP GARDENS—INTERIOR OF THE LIONS' PALACE.
The Cages are on the Right.

BERLIN GARDENS—BIRDS-OF-PREY CAGES.

COLOGNE GARDENS—SEA-LION POOL AND ROCKS.
The best Sea-Lion Installation and the best Rock-work in Europe.

FRANKFORT GARDENS—OUT-DOOR CAGES OF THE LION-HOUSE.



AMSTERDAM GARDENS—OPEN SIDE OF THE LION-HOUSE.

THE NEW YORK ZOOLOGICAL PARK.

To the average American who finds his recreations in his own country, the number, popularity, and elegance of the zoological gardens of Europe are almost beyond belief. The American who does visit Europe, however, and is beguiled into visiting all the zoological gardens that lie in his path, soon finds himself a prey to a curious succession of emotions.

At London, which is the best place to begin, he is honest and openly delighted with the bewildering array of living creatures. There are sixty different collections, representing nearly every country on the globe, and the specimens to be seen are so great in number, so rare and interesting, so well housed, and so comfortable that it is a matter of days, not hours, to see everything. He heartily congratulates the mother-country on the possession of the richest and most productive zoological society, and the richest series of living animals to be found in all the world—and passes on.

At Antwerp he is at first fairly dazed by the beauty of the grounds, the elegance of the buildings and appointments, the absolutely faultless character of the whole establishment and its administration. Each large building for animals is called a "palace," and no one denies its name. Take, for instance, the interior of the lion house, or the "Palace of the Carnivores." Why, exclaims the traveller, with a gasp, "this whole garden is as fine as the interior of an art gallery!" There is only one word which adequately describes the impression given by the gardens of the Royal Zoological Society of Antwerp, and that is—stunning! No wonder the society numbers 5000 members, and has "money to burn"! Every afternoon and evening in pleasant weather the gardens are the grand centre of attraction to the best people of Antwerp. If New York city possessed a duplicate of that zoological garden, the price of a kingdom could not buy it, nor could all the legislative power of the Empire State ever despoil it of a single brick or bar.

Rotterdam is only two hours distant, and the visitor to its zoological garden is charmed afresh by entirely new features, one of which is the very picturesque lake that has been made for the landscape—and the ducks. In the tall trees that surround the huge flying-cage—the first one built in Europe—*wild herons* are nesting and rearing their young! And as the American visitor looks at this novel sight, and at the gorgeous flamingoes and scarlet ibises, and the snow-white herons and egrets and storks, wheeling and circling in the top of their monster cage, he is sensible of a distinct feeling of envy and regret.

At Amsterdam, where he enters another

respect as are the cities of Germany, for example, we would have in New York city one of the finest gardens in the world, there would be another in Brooklyn, Newark would have one, and so would Harrisburg, Baltimore, Hartford, New Haven, Providence, Springfield, Bridgeport, and Boston.

It is not necessary to point out one by one the ways in which a great collection of living animals, comfortably housed and fully labelled, yields both pleasure and benefit to the people. Even intelligent savages are animated by a desire to know personally the living creatures that share with us the possession of the earth. The people of western Europe, who move through life less rapidly than we do, have taken time to consider the solid, healthful benefits and influences for good that emanate from every zoological garden; and the result we know. But in rushing, noisy New York, with its superabundance of haste and its lack of repose and restfulness, may now be seen the strange spectacle of a society of public-spirited men, who individually have nothing whatever to gain save the satisfaction that comes from the doing of a good thing, actually asking this city for the privilege of organizing a free public zoological park that shall meet the wants of our scattering mass of people.

With the city's little menagerie and its few new aquariums both crowded to the point of positive discomfort by the host of children and grown people who "want to see the animals," with 3800 acres of wild and unimproved park lands, and a society of men absolutely above suspicion standing ready to spend a quarter of a million dollars—with the certain prospect of their eventually spending much more than that—our prospect for a park is

sons are there in New York city who can, without special preparation, sit down and write correctly, in the order of their size, the names of the ten largest species of hooved animals in North America? The average man knows that we have at least two species of squirrels, but beyond that all is mystery. And yet we have the richest and most varied "line" of rodents to be found on any one continent.

If we have here a zoological park, it will contain a collection of North American squirrels and burrowing rodents, and hares and rabbits, living actually in a state of nature, in trees and meadows all their own, which will really be something new under the sun.

If human knowledge can bring it to pass, there will be collections of North American game-birds, both of the land and water, such as have never yet been seen in a zoological garden. There will be a reptile-house, and a collection of serpents, saurians, and other reptiles which will at least strive to rival that admirable feature in the gardens of the London Zoological Society. If we do not have a collection of eagles, hawks, owls, and vultures that will be worthy of study and of some value to science, it will be fair for the public to ask the reason why.

But the crowning educational value of the proposed park will be its system of labeling its specimens. The best zoological museums know that much is to be gained, but we have you to see or to hear of a collection in which one-quarter of the desirable possibilities in this direction have been developed. Possibly the average collector finds his many tasks hard enough without that. But, be that as it may, there is no reason why zoological garden labels should not be far more complete, more interesting, and more valuable to the public than they have ever yet been made.

The zoological park is to be open free to the public at least five days of each week, and wide open on every Sunday and holiday. It will be quickly accessible, and for a very low fare, from several directions, and by several lines. Its many collections will entertain and instruct, its great play-ground will furnish delight to throngs of little people, and its quiet, restful woods and picturesque water-sides will be to the tired and nervous business man more restful and soothing than any other spot within easy reach of Greater New York.

Stated briefly, the Zoological Society offers to plan the zoological park, to spend \$250,000 in the erection of buildings, aviaries and cages, and in the purchase of collections with which to fill them. It will also be responsible for the successful management of the institution it creates. All this it will do if the city will allow a portion of Bronx Park to be thus publicly dedicated to zoology, and will maintain the park and its collections by means of a small annual tax.

to be fairly consumed with envy. This zoological society also has a membership of over 4000, and seemingly possesses all the various kinds of wild animals that money can buy. But how do they keep everything in such fine condition? A few leading questions easily reveal the secret—rigid adherence to the merit system in the selection and pay of keepers and helpers.

In Hamburg there is still another novelty—a zoological garden with a beautifully undulating surface, and the shade trees all disposed according to order. There is still the same succession of broad and smooth shaded walks, shaded yards, exquisite landscape effects, fine buildings, and mountains of masonry, inhabited by fine animals in a state of absolute cleanliness. This high degree of excellence is really becoming monotonous. Not a poor or ill-kept garden has been met with so far. And now our American moves on toward the southeast.

At Berlin he traverses the vast Thierpark, which, like Napoleon, is "grand, gloomy, and peculiar," and enters the zoological garden. But it is only to find grounds that are the most spacious he has yet seen (more than sixty acres), buildings that are the largest, most elaborate, and most expensive of all, and landscape effects surpassed by none.

The collections are undeniably very large and fine. To cheer the American at the sight of an old friend, Dr. Heck calls out a stag to the keeper of the wild sheep and goats. The stag quietly disappears behind a cave in a rocky crag. The next moment out bounds a magnificent big-horn ram, from the Rocky Mountains, larger and finer than any ever seen in an American zoological garden.

This is really the last straw. Our American turns at bay and indignantly exclaims: "Why should the cities of Europe have *all* these things—beautiful gardens and beautiful animals everywhere—and we have none of them? It isn't fair!"

And this before even setting foot in the charming gardens of Hanover, Frankfort, and Cologne. There is no speculation in regard to what I have written; for quite recently I took to Europe with me a patriotic American in order to study "The Effects of European Zoological Gardens on the American Mind."

And really, is it not good cause for envy that in Germany, Holland, Belgium, and France nearly every place calling itself a city possesses a good zoological garden, and some of those that are surpassingly fine are only a very few hours apart?

Their number and their magnificence are uncontested proof of their value to the public and of their popularity. If our Eastern cities were as well provided in this

very bright. The Zoological Society's offer is, beyond question, the most liberal offer ever made to the city of New York by an educational body.

The idea animating the New York Zoological Society is distinctly different from that which yields the typical zoological garden. The latter usually means about thirty acres of well-ornamented and highly improved ground, in or near to the heart of a city, the whole area crowded with buildings and enclosures, and traversed by a perfect labyrinth of walks. While this idea has its good points, chiefly on the score of accessibility, the American idea of a spacious zoological park is put forth as a distinct advance.

In the crowded garden the large quadrupeds are often housed in buildings or confined in small pens. In the New York zoological park the allotment of space to each species will be far more generous than has ever before been attempted in a public park or garden. Instead of parceling out square rods of ground to the deer, the elk, moose, bison, and their congeners, each of those species will receive an allotment of acres. Instead of showing one lonesome beaver in a cage of iron and concrete, ten by fifteen feet, it is proposed to give that very interesting species a quiet pond of an acre in extent, wherein a whole colony can build and maintain their own dam, and carry on their logging operations almost as freely as if they were in the Yellowstone Park. For the collections of apes and monkeys, something is proposed which we believe has never yet been seen in a zoological garden. For the lions and tigers, and their kindred, there will be cage developments of a nature that will surely make those creatures more interesting and more instructive to the visitor than any to be found elsewhere.

It is to be feared that the people of the Eastern United States are beginning to forget that North America has a rich and extensive mammalian fauna. How many per-

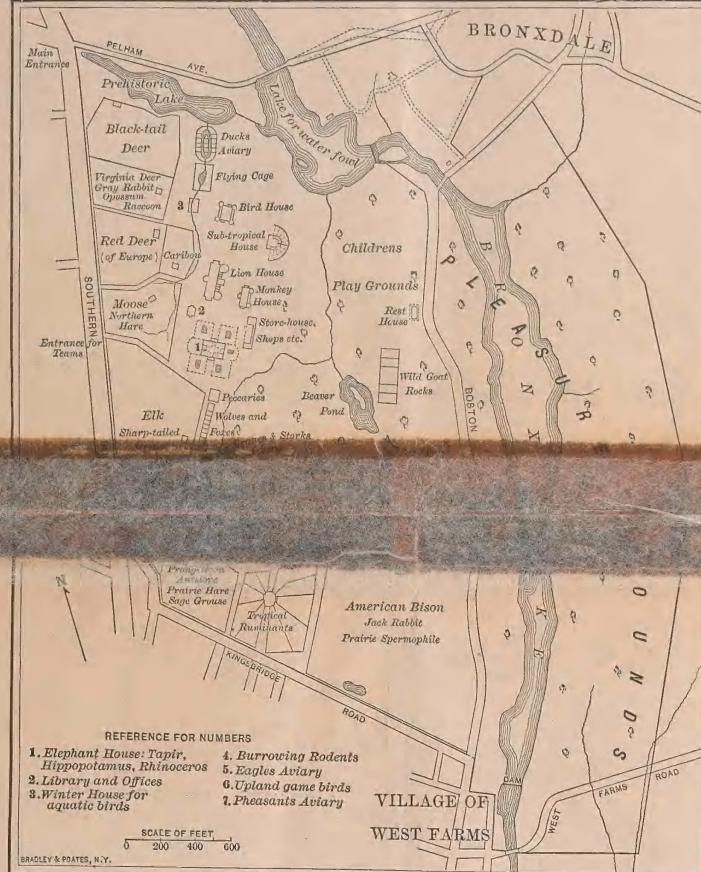
haps there is more—as is done each year by the American Museum of Natural History and the Museum of Art—for the increase of the collections, for courses of public lectures, and for facilitating the work of animal-painters and zoological students. It is the intention of the society to do more for the promotion of animal painting and sculpture than has ever been done heretofore in any similar institution.

The proposition means more to the people of Greater New York and the Empire State than the general public has yet even begun to realize. The proposition is really of national importance, and thus far it is absolutely without an enemy or a detractor. It has received, at the hands of the two municipal commissions most concerned, the investigation and careful consideration that every great public enterprise should receive before final action is taken. Mayor Strong, in reply to the earnest addresses of a committee representing 5000 members of the Tax-Payers' Alliance, who urged that the society's offer be accepted without delay, declared himself as heartily in favor of the proposition. He stated that the Sinking-Fund Commission is only waiting for the society to settle the details of its plan with the Board of Park Commissioners, and when that is done "it will give the undertaking a green send-off." After long and careful consideration, the Bronx Park Commissioners very recently agreed upon the designation of the suitable portion of Bronx Park as suitable location for the proposed garden, and the details of an agreement or contract between the city and the founders are now being arranged. It is therefore believed that the acceptance of the society's offer, on terms equally fair to the city and the society, is only a question of days. The society seeks no personal or selfish ends. It only asks the privilege of building up the new zoological park on lines which will insure the entire success of its expenditure and its work.

If half the plans of the New York Zoological Society are realized, New York's great zoological park will be the most popular resort open to the public within fifty miles of the metropolis; and it will also be the pride and boast of the chief city of the American continent, and of the whole Empire State as well.

The society invites every reader of HARPER'S WEEKLY who is interested in the creation of a zoological park in New York city, in the preservation of our native fauna, in the promotion of zoology, and in the painting and sculpture of animals, to become a member of the organization. If the work of the society is sustained by a large membership, results of much importance to all lovers of animated nature will be achieved.

WILLIAM T. HORNADAY.



THE PROPOSED PLAN FOR THE NEW YORK ZOOLOGICAL PARK.

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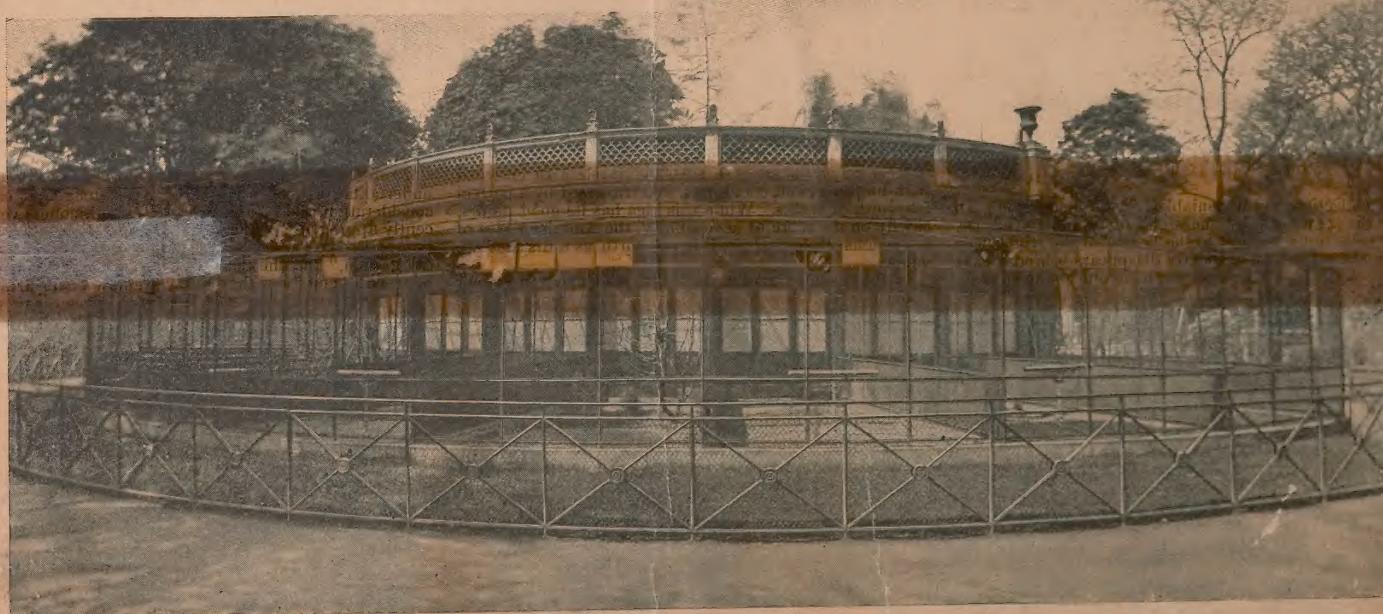


THE ZOOLOGICAL GARDEN IDEA, LONDON.—Foreign and American Methods Compared.—THE ZOOLOGICAL PARK IDEA, AMERICA.



HANOVER GARDENS—PART OF A FINE SERIES OF BEAR DENS.
These were presented to the Gardens by a Private Individual.

FRANKFORT GARDENS—THE GREAT RESTAURANT AND CONCERT-HALL.



PARIS GARDENS—PIGEON AVIARIES.

THE ZOOLOGICAL GARDENS OF EUROPE.
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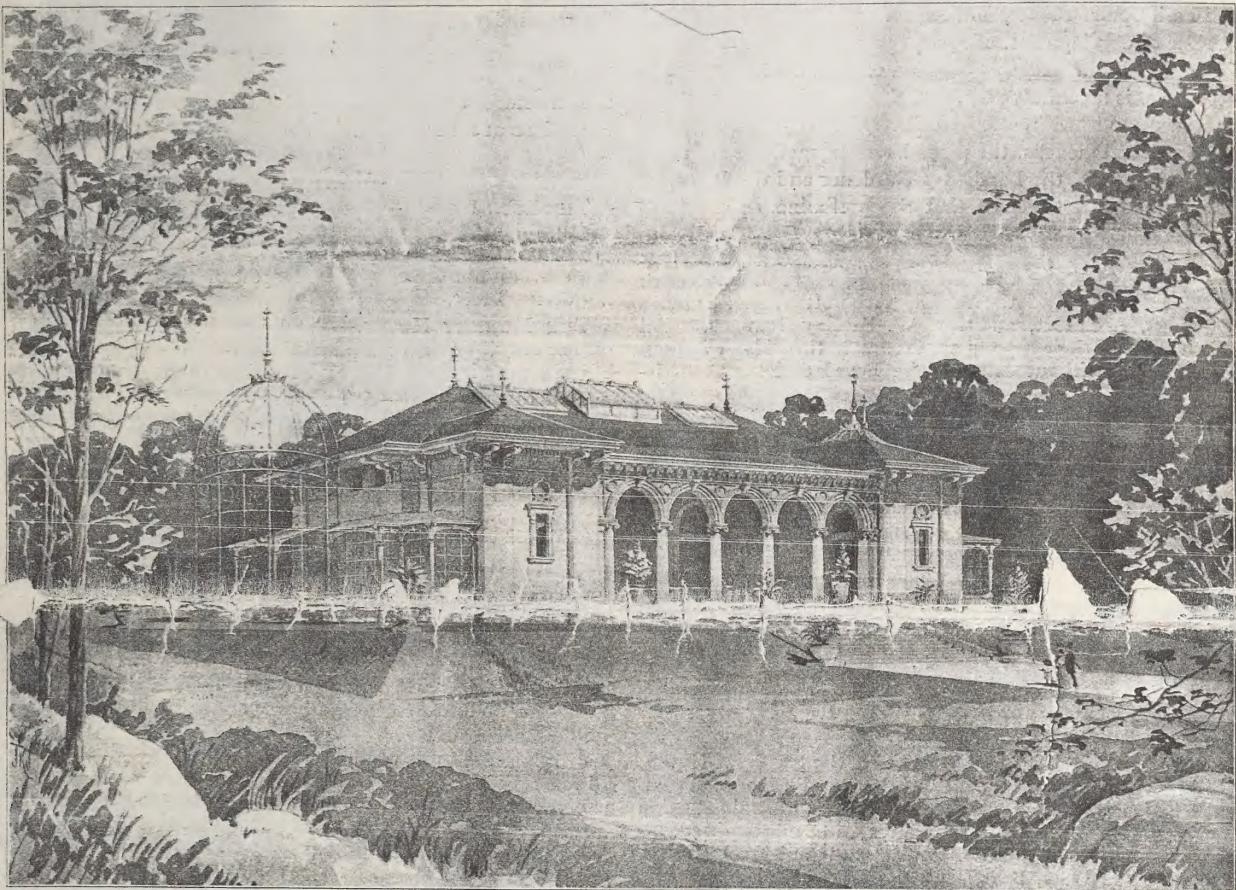
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NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY

Number 2. Issued by the NEW YORK ZOOLOGICAL SOCIETY, 69 Wall St., N. Y. October, 1897.



BIRD HOUSE FOR THE ZOOLOGICAL PARK.

THE BIRD HOUSE.

In many of the largest and best zoological gardens of the world, the bird collections seem rather unfortunately scattered and broken up. To a great extent, this is unavoidable, for the practical difficulties to be faced in providing comfortable homes for the representatives of the feathered inhabitants of the earth are really very numerous and complicated. Even of our own North American birds, we must provide for the representatives of 18 orders, and as many of our 61 families and 766 species as it is possible to gather. When to the great diversity in size and food habits of birds, we add the requirements as to temperature, atmosphere, light and shadow, the nature and complexity of the problems to be solved begin to appear.

In the installation of living creatures a systematic arrangement is a practical impossibility. The different orders must be placed where their representatives will live loudest and most comfortably. In the designing of the Zoological Park, it has been possible, however, to accomplish an end which we believe may be viewed with satisfaction. The various collections of birds, filling ten aviaries and buildings, are to be disposed in two great groups, one in the north-central portion of the Park, and

the other around the large pond which lies under the shelter of the timbered ridge near the southwest entrance.

We present herewith a reproduction of the architect's preliminary design of the proposed Bird House. It has been planned to afford, both within and without, a great amount of cage room for the benefit of the perching birds, parrots, lorises, macaws, pigeons and doves, diving birds, owls and hawks, and the general *omnium gatherum* of birds which cannot well be accommodated elsewhere in separate collections. The interior of the building, which on the ground is shaped like a T with the top toward the north, as shown in the engraving, will afford 330 lineal feet of cage room, on a large portion of which small cages will stand in three tiers.

The outside of the building affords room for 332 lineal feet of cages for hawks, owls, the hardy perching birds, and certain others that with proper shelter can endure our winters. There will be six large and handsome dome cages, similar to that shown in the illustration. The interior of the building will be made attractive by the introduction of plants and vines, descriptive labels, diagrams and other aids to a proper appreciation of the living inhabitants of the cages. Perhaps the most interesting feature of the whole interior will be the diving birds and their huge glass tank filled with water, in which one of the most interesting sights of the whole bird world will be distinctly seen.

NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY.

PROGRESS OF THE PLANS.

Since the appearance of the previous issue of the BULLETIN, the Executive Committee of the Society has addressed itself to the task of perfecting the scheme of arrangement of the buildings and collections of the Zoological Park, and the elaboration of the final plans for the animal buildings. As may readily be inferred from the number of large and costly buildings, aviaries, and other enclosures to be constructed, this has been an undertaking demanding long and careful study, and close attention to innumerable details. Naturally the Park Commissioners will expect to pass upon a complete scheme of development, adequately representing the finished Zoological Park. The preparation of such a scheme on correct lines, is no child's play, and the work involved was not to be accomplished in a few weeks.

For several months, the plans have engaged the attention of the Architect, the Landscape Gardener and the Director. We are now able to report that the preliminary plans have been completed, and will be submitted on October first to the President and to the Executive Committee, then to a committee of three experts, consisting of Prof. Charles S. Sargent, Director of the Arnold Arboretum, Mr. Thomas Hastings, Architect, and Mr. W. Barclay Parsons, Civil Engineer. If their reports are favorable the plans will then be submitted without delay to the Board of Park Commissioners.

The original scheme of arrangement, as laid down in the published "Preliminary Plan," has met every test that has been applied to it, and, with the slight exceptions to be noted, has been closely adhered to. The four large buildings in the glade, and the adjacent Elephant House, have each been shifted a few feet to meet the requirements of the best architectural effect. The Administration Building has been assigned an entirely new position (near the Ducks' Aviary), ~~to my~~ ^{acce} by the carriage road which is to lead ~~from~~ ^{to} Central Avenue to the main Restaurant. The latter has finally been located between the Sub-Tropical House and the Lake.

With the final plan of the Zoological Park grounds will be submitted the plans and elevations for the following important buildings:

The Lion House, the Monkey House, the Elephant House, Bird House, Winter House for Birds, Reptile House, Tropical Ruminants' House, main Restaurant and Administration Building. Of secondary structures will be submitted the plans for the Flying Cage, Eagles' and Vultures' Aviary, Wolf and Fox Dens, Bear Dens, Sea Lions' Pool, Pheasants' Aviary, Buffalo House, Deer Barns, Mountain Sheep shelter and Ducks' Aviaries.

If the Society's plans are approved by the experts and the Park Commissioners, it will then be in order for the Engineers to prepare plans for a system of sewerage and water supply. The walks necessary to the Park are all shown on the final plan, and, while very extensive, the system is only what is absolutely required for the convenience of the public.

The Society feels that it has spared neither time, labor nor expense in working out a set of plans that are as nearly perfect as human knowledge and taste can make them.

The best data obtainable, both at home and in foreign countries, was secured in advance, and ample time has been taken to consider every point. The Chairman of the Executive Committee has scrutinized every important step that has been taken, and considered the reasons therefor. Now that the preliminary plans of the buildings have been completed, they will be submitted immediately to Mr. Arthur Erwin Brown, of Philadelphia, and Herr. Carl Hagenbeck, of Hamburg, for inspection and criticism.

The Society's pledge to preserve intact the natural beauty of the Park has been strictly kept. If these buildings are all erected, and the time should ever come, in the distant future, when there are no longer living wild animals with which to fill them, excepting the ponds and drainage, the whole of these improvements could be swept away, and the Park would be left almost exactly as it is to-day.

BUILDINGS PROPOSED FOR THE PARK.

The Society does not propose that any feature of its work shall be performed on a small or cheap scale. The Greater New York should not plan a mere menagerie on the matchless site set aside as a Zoological Park. The Society is carefully studying in this country and abroad what constitutes an ideal vivarium, and it proposes to build one worthy of a great city, or none! It has the right to use the ground, it now has the plans, it has part of the money, and it believes it will receive from the public-spirited people of New York the remainder of the funds necessary.

In order that it may be seen why a large building fund is asked for, we submit the following brief enumeration of the structures to be erected by the Society, and filled with collections at its own cost.

THE LARGER BUILDINGS.

THE LION HOUSE.—Extreme length, 263 feet; extreme width, 87 feet. The out-door cages have an extreme width of 45 feet, and a total length of 200 feet. There are 12 inside and 9 outside cages, the largest of the latter measuring 39 x 43 feet.

THE MONKEY HOUSE.—Total length, 160 feet; width of building, 55 feet; and with out-door cages, 77 feet. There are 32 inside cages, and 11 without.

THE BIRD HOUSE.—A T-shaped building, of which one section measures 50 x 100 feet, the other, 46 x 96 feet. Within there are 380 lineal feet of cages, and 332 feet without.

THE ELEPHANT HOUSE.—An imposing structure, 78 x 144 feet, with 8 paved yards attached, swimming tanks, etc.

THE ANTELOPE HOUSE (for tropical ruminants.)—Length, 112 feet; width, 78 feet. There will be 18 large compartments, connecting with shaded yards outside. This building must accommodate the large pachyderms until the Elephant House is erected.

THE REPTILE HOUSE.—One hundred and forty-five feet long, and 94 feet wide. At one end there will be a conservatory, and at the other, a house and yards for tortoises.

SUB-TROPICAL HOUSE.—This building is chiefly for large marsupials and birds of the southern hemisphere. Length, 78 feet; width, 53 feet; all cages to connect with outside yards.

SMALL MAMMALS' HOUSE.—One hundred feet long, 50 feet wide. This building will accommodate the extensive assortment of miscellaneous species that cannot be installed in separate groups.

ADMINISTRATION BUILDING.—Fifty feet square and three stories in height; to contain the offices, library, picture gallery, and studios for artists and students at work in the Park.

BUILDINGS AND OTHER STRUCTURES OF A LESS COSTLY CHARACTER.

THE FLYING CAGE.—A huge cage, 150 feet long, 75 feet wide, and 50 feet high, for large and showy Herodiones, flamingoes, and other birds.

WINTER HOUSE FOR BIRDS.—A glass-roofed house, 66 feet long and 52 feet wide, to serve as winter quarters for the birds of the Flying Cage, and many others.

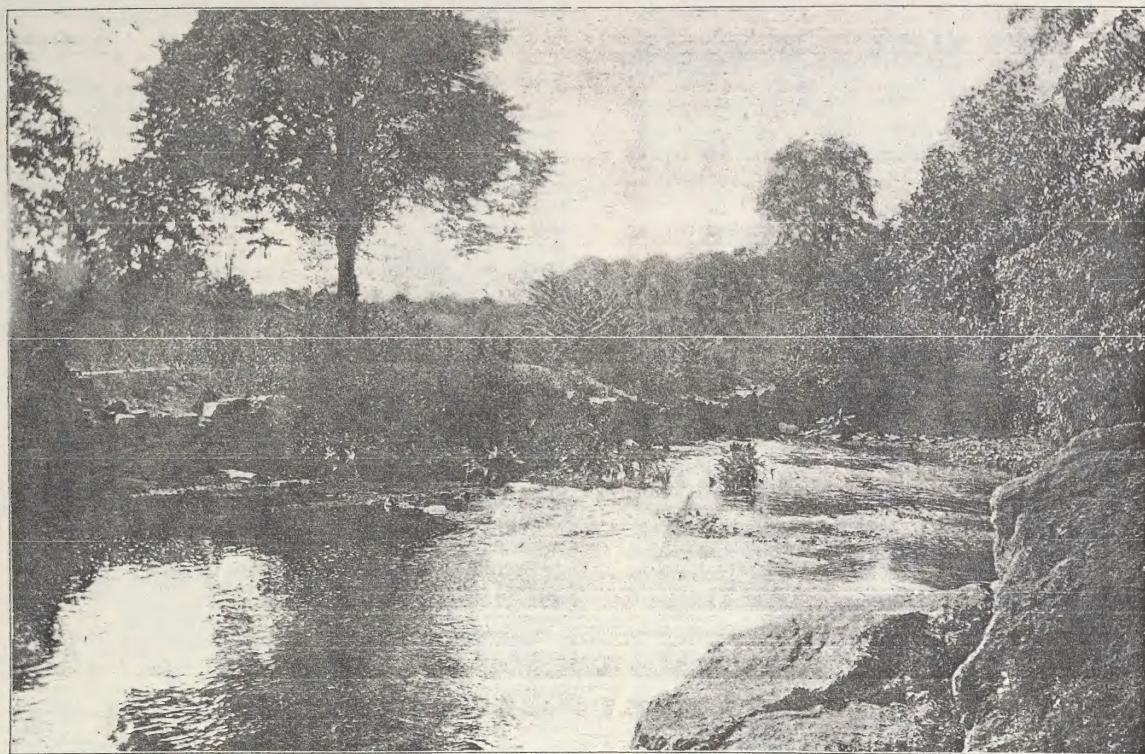
THE BUFFALO HOUSE.—A low, hill-side barn of rough stone, to be used as a shelter in winter.

THE EAGLES' AND VULTURES' AVIARY.—A series of immense out-door cages, aggregating 220 feet in length. Greatest height, 30 feet.

THE CRANES' AND STORKS' AVIARY.—A series of yards, with low and narrow shelter house, 100 feet long.

THE PHEASANTS' AVIARY.—Ten wire-covered run-ways, with a low and narrow shelter house, 150 feet long.

THE WOLF AND FOX DENS.—A series of out-door enclosures with dry and warm shelter dens attached; in all about 200 feet long.



A BIT OF THE ZOOLOGICAL PARK, NEAR THE WATERFALL.

FROM A SERIES OF NEGATIVES PRESENTED TO THE SOCIETY BY MR. RUDOLPH KERSTING.

THE BEAR DENS.—A series of enclosures and shelter dens aggregating about 300 feet in length.

THE SEA-LIONS' POOL AND ROCKS.—A large and deep tank of concrete, with a hill of rock attached, providing shelter dens.

INEXPENSIVE INSTALLATIONS.

THE BEAVER POND.—The beavers will be required to build all the necessary dams for their ponds, all their canals, save one, and also their houses for winter use. A strong iron fence three feet in height will surround about two acres of land and water.

THE OTTERS' POOL.

THE DUCKS' AVIARY.

THE UPLAND GAME BIRDS' AVIARY.

THE CROCODILE POOL.

THE SQUIRRELS' ENCLOSURES.

THE BURROWING RODENTS' ENCLOSURES.

THE PRAIRIE-DOG VILLAGE.

THE WOODCHUCKS' ENCLOSURE.

Shelter barns or sheds must be provided for each of the following herds:

ELK, MOOSE, CARIBOU, MULE DEER, VIRGINIA DEER, RED DEER, ANTELOPE, FALLOW DEER, PECCARY AND WILD BOAR.

It is not expected that all the buildings and enclosures enumerated above can be provided during the first year. It is absolutely necessary, however, that at least four of the large buildings, and twenty-one of the other structures should be erected and completed before the Zoological Park is ready to receive collections, or to be opened to the public. With \$250,000 of the building fund in the treasury by March 1st, 1898, the Park can be opened in a satisfactory and becoming manner on May 1st, 1899.

The city has agreed to do its full share in this undertaking, and the future of the Zoological Park rests with the private individuals of this city.

THE GROUND IMPROVEMENTS FOR THE ZOOLOGICAL PARK.

As stated in BULLETIN number one, by an Act of Legislature the city of New York will provide \$125,000 with which to meet the cost of preparing a portion of South Bronx Park for the reception of the Society's costly buildings and collections, and making them accessible to the public, as soon as the Society's Improvement Fund reaches \$100,000. The schedule of work that is imperatively necessary at the outset, and which should be paid for from the City fund, is published herewith. The estimates of cost have been prepared with care, and with the aid of expert advice obtained in the City's Departments of Parks, Sewers and Water, and elsewhere. The figures given are based on a premise of strict economy, no useless expenditure, work needed first to be executed first.

SCHEDULE OF WORK, AND ESTIMATED COST.

Workshops and sheds	\$3,000
Burying an open sewer	3,300
Service roads for teams	4,800
Ponds and pools	5,000
Croton-water supply pipes	4,877
Sewers	17,050
Reconstruction of dam	1,500
Hydraulic engines	1,200
Bronx-water supply pipes, to ponds . . .	3,058
Concrete walks	50,275
Fences for animal ranges	5,890
Boundary fence	1,850
Entrances	3,000
Public comfort buildings	10,000
Benches	3,000
Macadamizing yards	3,000
Cleaning Bronx River	4,700
	\$125,000

NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY.

News Bulletin

OF THE

New York Zoological Society.

PUBLISHED AT THE

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NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY.

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THE BULLETIN.

Our first number was an experiment. The issue of a popular news bulletin by a scientific society seemed a somewhat questionable proceeding. But, from the very beginning the Zoological Society has attempted to give the establishment of the Zoological Park a thoroughly popular, as well as scientific character, and to make all its proceedings and plans as well known to the public as possible, feeling that the more the public becomes acquainted with the details of the work to be accomplished, the more abundant and sincere will be the support accorded the undertaking.

Fortunately, BULLETIN number one was received in the same spirit in which it was sent forth. Although issued in mid-summer, two hundred and ten persons responded to its "call for friends and funds." It is not strange, therefore, that the Society now regards the NEWS BULLETIN as a sort of fixture, to appear at intervals and mark the progress of the work. We double its size in order that the present number may contain at least half what could be said to the members of the Society and to the general public at this date.

INCREASE IN MEMBERSHIP.

A careful examination of the names in the printed roll of new members will reveal the reason why the Society is well pleased with the result of the first open call for support. On March 24th, when the Society received the grant of South Bronx Park, the membership included only 30 life members and 88 annual members. At present the list reveals 3 founders, 10 patrons, 57 life members and 369 annual members, making a total of 439. We hope to double all these figures before March 1st, 1898.

We are much gratified to note that a number of ladies and young people have joined the Society, both as annual members and life members. It is also very encouraging to find in the membership roll the names of many non-residents, representing New Jersey, Connecticut, Rhode Island, Massachusetts, and even the city of Buffalo. It was the influx of new members prior to July 13th, which convinced the Executive Committee that it was amply justified in taking steps for the proposed exhibition of animal paintings next February.

EXHIBITION OF ANIMAL PAINTINGS.

To many lovers of animated nature, there is cause for deep regret in the fact that all our finest animals, both of land and sea, are being swept away without any efforts being put forth to perpetuate their forms on canvas. The taxidermists, the zoological museums, and those whose duty it is to establish zoological gardens, all are earnestly striving to do their duty toward our vanishing fauna, and to do it well. Three great scientific institutions,—the American Museum, the National Museum, and the State University of Kansas—already have installed large mounted groups of our more noteworthy mammals, on a scale which is truly praiseworthy, and hardly to be surpassed. In those institutions, money has been freely spent in an effort to create lasting monuments to the buffalo, moose, elk, mountain sheep, mountain goat, walrus and other important species now threatened with extinction.

But, as for the painting of American wild animals, what do we see? *Not one* of our public art galleries contains a noteworthy painting of a wild animal! So far as can be ascertained, they contain collectively but two wild-animal pictures of any sort,—a tiny painting of a squirrel, by W. H. Beard, in the Wistach Gallery, and a small painting of Virginia deer, by the same artist, in the Powers Gallery. Even our finest and handsomest animals have been ignored. For years past our American painters of wild animals have been working in black and white, producing illustrations for magazines, simply because their labor in that field is remunerated! They have produced many fine illustrations, but in our art exhibit at Paris, at the World's Fair, and in our art galleries as already mentioned, fine, noteworthy, monumental paintings in color, such as those of Landseer, were and are conspicuously absent.

The Zoological Society believes that in promoting the production of fine pictures of our wild animals, *and a proper appreciation of them*, it will be acting strictly in line with one of the objects for which the organization was created, and that it will render good service, not only to zoology, but to the general public as well. It firmly believes that in this direction there are splendid possibilities which have never yet been developed in any country. It believes that the more the artistic reproduction of our wild animals in painting and sculpture is increased, the more interest will the public take in our fauna, and the more will knowledge of it be increased.

After careful deliberation, the Society has therefore decided to begin forthwith a systematic effort to encourage and develop the painting of American wild animals. At some period in February, yet to be fixed, it will open an exhibition of animal paintings by American artists, or by artists working in this country. At first it was the Society's intention to offer a series of prizes for the best work in colors on mammals, birds and reptiles; but the time available for competitive work is now too short to justify it. It has therefore been decided that the first exhibition shall be non-competitive, and artists will be invited to send groups of their pictures, so that each of our animal painters and illustrators may be fairly represented.

To this end, paintings of domestic species as well as of wild animals will be admitted; but it is believed that subsequent exhibitions should be open only to paintings and sculptures of wild species. It is the intention of the Society to offer cash prizes and medals as soon as the degree of interest shown by our animal painters seems to justify it. It is not practicable to include animal sculptures in the first exhibition, but hereafter they will be invited.

The sale of pictures displayed will be encouraged and facilitated in all proper ways, and no commissions on sales will be charged. The patrons of art, and the public generally, will be invited to take an interest in the exhibition and in the idea it will represent, and aid it as far as possible. One feature of the exhibition will be the members' reception, to which all members of the Society will receive cards of invitation at the proper time.



BABY GORILLA.

TWO LITTLE APES.

Of all the living creatures that ever find their way into zoological gardens, none, it is safe to say, surpass in interest the strangely man-like anthropoid apes. Human interest in the gorilla, chimpanzee and orang-utan centres in the degree of their resemblance, in form and in act, to humanity. In every tongue that is spoken before an ape's cage, you will hear expressed the central idea of your own observations—"Just like a person!" Each visitor, in his turn—Caucasian, Mongolian, Polynesian and Negro—grapples for a moment with the great question of "Relationship Between Man and Apes," wrestles with it, and retires discomfited.

Of the great anthropoid trio—gorilla, chimpanzee and orang-utan—the chimpanzee is by far the best known. It lives longer in captivity than either of the other species, it is of more active habit, and also more intelligent. Crowley, Chiko, Johanna and Kitty, formerly of the Central Park Menagerie, but now distinguished members of the hall of apes and monkeys at the American Museum, all were chimpanzees, and will live long in the memories of the children of Greater New York.

The gorilla is one of the rarest animals ever shown in zoological gardens. In captivity it is sullen and lymphatic, and its objection to exercise is so violent and deeply rooted as to suggest the line of descent whence has come that arch enemy of all labor—the American tramp. The gorilla's sullen disposition and pernicious inactivity predisposes the animal to indigestion, loss of appetite, and an early death.

Owing to the extreme infrequency with which gorillas are captured alive, and to their refusal to harmonize with their environment when caught, their months of life in captivity are, in every case, but few. Only three or four specimens have ever been exhibited in Europe. Of those, two were inmates in the London Zoological Gardens, the first one in 1857, and the other in 1896.

Despite all the efforts of showmen exerted to obtain genuine gorillas, and also to palm off cheap and common old

dog-faced baboons as genuine *Troglodytes*, no live gorilla has ever reached the American continent until the present year.

For many months I have watched with great interest the work of two American ape-fanciers, the Edwards brothers, in training orang-utans and chimpanzees, which they continually exhibit. Ever on the watch for new simian "talent," they found in Liverpool, last April, in the possession of a dealer, a genuine baby gorilla, alive and well. They promptly purchased the strange little creature, and on May 2, the first specimen of *Troglodytes niger* ever seen alive in this country, arrived in Boston, and was exhibited there.

It was 20 inches in height, 15½ pounds in weight, and its portrait is reproduced herewith. The sailors who brought it to Liverpool from the Gaboon country stated that its capture was due to an accident to its mother, who was killed by a falling tree. When first captured the natives fed it on plantains and rice, but on reaching civilization its bill of fare was extended to include milk, dry bread, apples, oranges, figs and bananas.

Although the little creature was a hearty eater, an energetic fighter, and apparently desirous of long life, fate proved unkind. For such a delicate and sensitive animal, it was brought across the Atlantic a little too early. On the voyage over it contracted a severe cold, which resulted in its death only five days after it reached Boston.

I am tempted to mention one other of the numerous anthropoid pets of the Edwards brothers. Probably no orang-utan, nor chimpanzee, has ever proven more intelligent, amiable or obedient than the wonderful orang-utan called "Joe," now known to thousands of people on the Pacific coast, and in Boston. Joe's special mission in life seems to be the caricaturing of humanity. Unlike most individuals of his species, he is fond of human society, and not only permits himself to be dressed up and posed and exploited as a man, but he enjoys it. I once had the pleasure of meeting Joe, and of being presented to him. At a gentle hint from Mr. Edwards he saluted me by taking off his cap and shaking hands with me, after which he put on his coat, and for half an hour entertained me to the best of his ability,—which was great. He understands, and without hesitation obeys, about twenty-five different commands.

Through the kindness of the Messrs. Edwards, we also reproduce herewith a picture of another anthropoid travesty on the genus Homo, an amiable chimpanzee dressed in human garments. It is merely the idea of relationship carried one step farther than unaided nature can go.

W. T. H.



AN ANTHROPOID TRAVESTY.

NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY.

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REPORT OF ZOOLOGICAL EXPERTS ON THE PLAN OF THE ZOOLOGICAL PARK.

Some months ago the Director of the Zoological Park requested the Executive Committee to submit his preliminary plan of installation to three experienced field naturalists, three zoological garden experts and three landscape gardeners, for critical examination and report. In compliance with the first part of this proposition, the Society at once sought the advice of Dr. C. Hart Merriam, Chief of the U. S. Biological Survey, (Washington), Dr. Geo. Bird Grinnell, Editor of *Forest and Stream*, and Mr. Elwood Hofer, of the Yellowstone Park, official collector of living animals for the National Zoological Park. It would be difficult, if not impossible, to find in this country three gentlemen who by years of close study of our mammals in their haunts, especially in the western United States, where they are most abundant, are more competent to judge of the merits of the plan submitted to them. Each of the gentlemen named went over every portion of the ground, map in hand, weighed the merits of every proposition, and reported in writing. Two of the reports we publish herewith, and regret that we have not space for all three.

U. S. DEPARTMENT OF AGRICULTURE,
BIOLOGICAL SURVEY.

WASHINGTON, D. C. April 15, 1897.

PROF. HENRY F. OSBORN,

Chairman Executive Committee,
New York Zoological Society.

My dear Professor Osborn.—In compliance with your request of March 27, 1897, I visited South Bronx Park, the site selected for the New York Zoological Park, on the 13th inst., and carefully inspected the grounds in company with your Director, Mr. Hornaday, who pointed out to me in detail the places which, in the preliminary plan, are allotted to the various animals.

Taken as a whole, the ground selected for the Park could hardly be better adapted to the ends in view. I was surprised to find so near New York City a tract combining such natural beauty and ruggedness, an abundance of mature forest trees, an unlimited water supply, and sufficient diversity of local conditions to meet the needs of nearly all the animals it is desirable to exhibit in a zoological park.

It is true that the Park does not contain ideal places for the Bighorn, Mountain Goat, and Prairie Dogs. With respect to the two former, however, it may be said that no ideal locality exists nearer than the higher peaks of the Catskills. But, by supplementing the rock ridges chosen for the Bighorn and Mountain Goat by artificial masses of rock, I think these animals will secure the best conditions that can be afforded them in the neighborhood of New York City.

With respect to the Prairie Dogs, the only spot in the Park really suited, in my judgment, to the needs of such burrowing animals, is the knoll which on your preliminary plan is surrounded by the four principal houses—the Lion House, Monkey House, Bird House, and Sub-Tropical House. For my part, I see no good reason why these mild-mannered and inoffensive animals could not occupy this prominence without in any way interfering with the animal houses to be erected in the immediate vicinity. If they are put elsewhere it will be necessary to cart in a large quantity of soil to give them sufficient depth of earth for their diggings.

The areas selected for the Bison herd, Antelope, Moose, Caribou, and the various Deer, the ledges for the dens of the Bears, Wolves and Foxes, and the ponds for the Beaver and Muskrat, and so on, seem to me excellently chosen, and well adapted to the wants of these animals, and I do not see how they could be improved.

Near the north entrance of the Park, on the west side of the road, is a picturesque mass of rock partly concealed by junipers. This, in my judgment, is an almost ideal spot for colonies of two of the most beautiful and interesting of our small mammals. I refer to the Silver-sided Ground Squirrel of California (*Spermophilus fisheri*), and the Golden-mantled Ground Squirrel of the Cascade Range in Oregon (*Spermophilus chrysodeirus*). Both of these animals are diurnal, graceful, and extremely beautiful. They naturally live in loose colo-

nies, are easily tamed, and would, in my opinion, form one of the most attractive and interesting exhibits it will be possible to make.

In closing, allow me to express the hope that you and your colleagues will ever bear in mind that the principal object of a Zoological Park is to keep living animals as nearly as possible under natural conditions, and at the same time where they may be seen by the public. This being the case, the aim should always be to give each animal the place best adapted to its habits of life. In some cases the selection of a site must be regarded as experimental, and subject to change. In other cases, certain animals will have to be moved from time to time in order to give them fresh ground. For all these reasons it seems obvious that the Park should be left as nearly as possible in a state of nature, and that no attempt at landscape gardening should be tolerated—at least for the first few years—until the requirements of the animals and the requirements of the public have become thoroughly adjusted.

I congratulate your Society on having secured so commodious and desirable a site for your new Park, and firmly believe that, under the efficient management of your able Director, it will become the leading zoological park of the world.

Very truly yours,

C. HART MERRIAM,

Chief, Biological Survey.

FOREST AND STREAM PUBLISHING CO.

New York, April 24, 1897.

PROF. HENRY F. OSBORN,

Chairman Executive Committee,
New York Zoological Society.

Dear Sir:—In compliance with the request contained in your favor of March 27th, I have examined the plans for the Zoological Park now before the Zoological Society, and in company with the Director have visited the tract of land in Bronx Park allotted to the Society by the city authorities.

In the letter referred to you ask me to report especially (1) as to the desirability of the ranges selected for the principal North American ruminants, (2) as to the locality selected for the dens of the bears, wolves and foxes, (3) as to the beaver pond and (4) as to the site selected for squirrels and other gnawing animals.

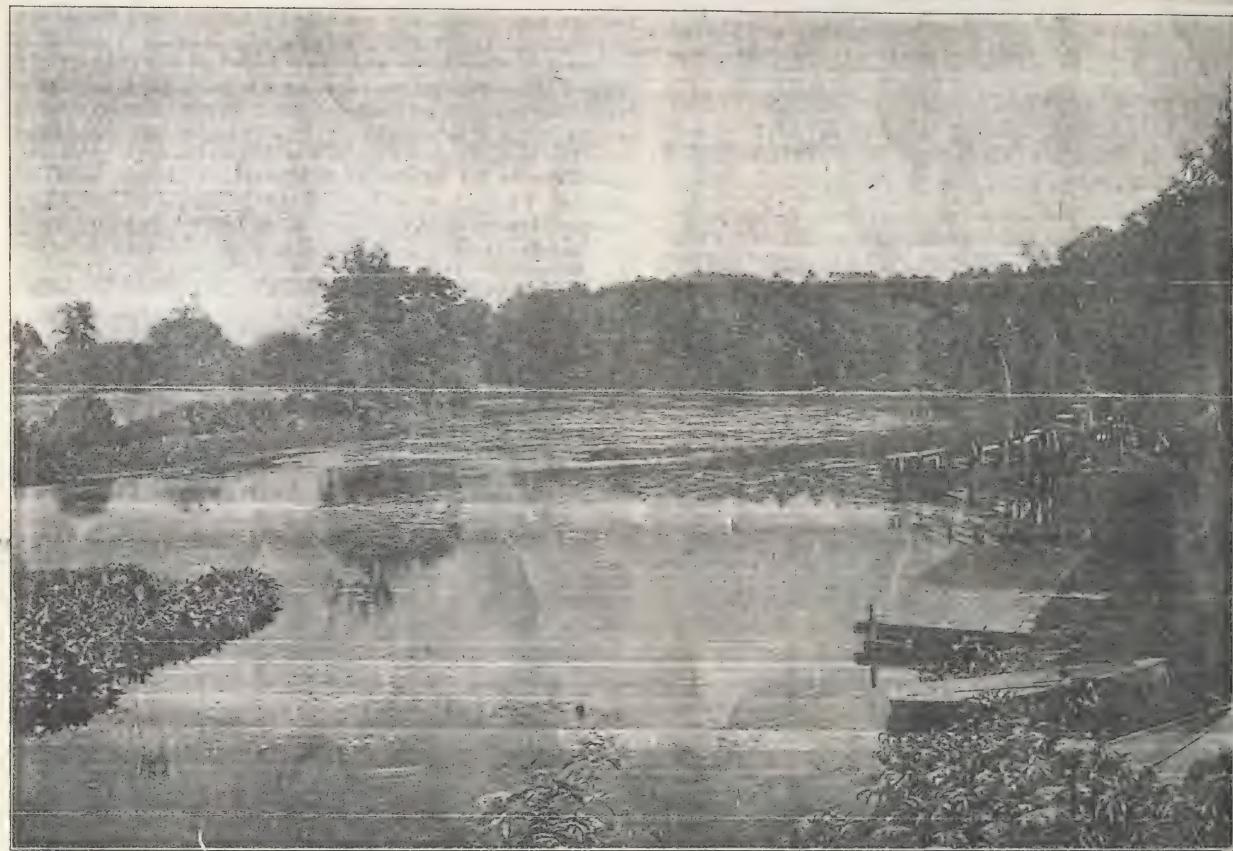
As I have before remarked, the land allotted to the Society for its park is singularly well fitted for the purpose to which it is to be devoted. In topography, in the quantity, character and distribution of the timber on it, in the abundance of its water supply for purposes other than for drinking, and in the great quantity of rock contained within its limits, South Bronx Park seems to contain a combination of the essential requirements of a Zoological Park such as could hardly be matched anywhere.

The ranges selected for the bison, antelope, elk, deer, moose, caribou and mountain sheep are well chosen, and with such modifications as will naturally suggest themselves, the different species named ought to do well.

I have suggested to the Director that, in view of the considerable range allotted on the plans to the bison, and the habits of the antelope and the bison, it might be practicable to enclose the prong-horned antelope with them for a portion, at least, of the year. It is not likely that for a long time the herd of bison will be very numerous, and I am disposed to think that the antelope might well range with them, since we know that in the old days of buffalo plenty on the plains these two species associated closely with one another, the antelope feeding in the midst of the herds of buffalo, and the buffalo paying no regard to their presence.

If it should be deemed wise to make this change, the tract now marked on the plans as antelope range might advantageously be used for a summer range for the tropical ruminants, or some of them whose pens are adjacent to this tract.

In the cases of several species of the North American ruminants I believe that while the ranges selected for them are excellent they may be greatly improved by a little artificial work. Such species as the bison, the elk, the mule deer, and, of course, the mountain sheep, frequent—when it is possible—rough and broken ground, and are very much disposed to climb up to high points of rocky hills or ledges where they stand or lie and look over the country. I have suggested to the Director that in the ranges assigned to the species named, great piles of large rocks should be erected, which I believe these animals would use in this way, and which would undoubtedly contribute greatly to their health and would tend to keep them in good condi-



LAKE FOR WATER-FOWL IN THE ZOOLOGICAL PARK. FROM PELHAM AVENUE BRIDGE.

tion. The first and most serious difficulty met with in caring for captive animals is to give them sufficient exercise, and if they can be induced to move about, and especially to climb and descend steep acclivities, the prospects for their health and well-being will be greatly increased. Such rocks would be used also as scratching places, and in this way would contribute to the animal's comfort.

I have elaborated this idea to the Director, and have suggested how such erections may be made not only without marring the landscape, but may even be made to add to its picturesqueness.

It is, of course, well known that the hoofs of the ungulates grow more or less to compensate for the wear to which they are subjected in a state of nature, and in the case of certain species which travel over rocky or gravelly ground, this wear is considerable and the growth of the hoof correspondingly rapid. It is evident that the hoofs of animals confined in pens, or in limited ranges where the soil is soft, will not be subjected to this wear, and yet their growth continues. Provision must therefore be made for an artificial wearing down of the hoof, or the animal's feet must be pared from time to time. The great amount of rock and stone now on the ground allotted to the Society will make it an easy matter to build, within and close to the fences confining each species of ruminants, a walk of rough broken stone which will be of the greatest value in keeping the animals' feet in good condition.

The locality selected for the dens of the bears is admirable, and I am inclined to approve that chosen for the wolves and foxes. It may be necessary, however, to plant a line of evergreens west of these dens.

I heartily approve of the location of the beaver pond, and have suggested to the Director a mode of treating it which I believe will be greatly for the benefit of any animals that may be confined there.

As yet I am somewhat in doubt as to how to treat the accommodations for the squirrels and other gnawing animals. It is quite obvious however, that it will prove impracticable to furnish the squirrels with permanently living trees in their enclosures, unless these enclosures shall be moved from time to time. In other words, if the number of squirrels using any tree is large, in the course of a comparatively short time the animals will kill the tree. It will probably be better, therefore, for the Society to provide living trees for the groups of squirrels and to accept the fact that they must be killed. After the

trees have been killed, the squirrels may be allowed still to live in them.

The location of the burrowing rodents presents problems that require further investigation, as in many places the rock is so near the surface of the soil that it may well be that artificial burrowing places will have to be prepared for animals such as prairie dogs, woodchucks and other species of like habits. * * * * *

Yours respectfully,

GEO. BIRD GRINNELL.

ADVANTAGES OF MEMBERSHIP.

Among the advantages of membership are, first of all, the satisfaction of taking part in a great popular enterprise of the utmost interest to every lover of Nature and her works. The direct practical benefits to members are as follows: Admission to the Zoological Park on the two days of each week when to the general crowds it will be closed, except upon payment of an admission fee; the privileges of the library building, the library, and its picture collections; the receipt of the Society's publications, many of which will undoubtedly possess considerable artistic and literary value, and will be free to members only; the privileges of all lectures, receptions, and special exhibitions. In brief, the time will soon come when the Society will give ample returns for the assistance of those who come forward helpfully during the initial stages of its work.

Applications for membership should be addressed to Madison Grant, Secretary of the Zoological Society, No. 11 Wall Street, or to the Director of the Zoological Park, at the Society's office, No. 69 Wall Street.

There is no initiation fee. The yearly dues for Annual Members are \$10; the Life Member's fee is \$200; Patron's fee, \$1,000; and Founder's fee, \$5,000. Subscriptions should be addressed to the Secretary and made payable to the New York Zoological Society.

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NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY

Number 3.

Issued by the NEW YORK ZOOLOGICAL SOCIETY, 11 Wall St., N. Y.

December, 1898.



FOUNDATION OF THE REPTILE HOUSE, NOVEMBER 4, 1898.

THE REPTILE HOUSE.

It is safe to say that no other portion of the fauna of North America is so little known as the reptiles. This is due to the fact that living reptiles are difficult to find and to study, that good collections are rare, and books on reptiles are so very few. To-day, people generally are eager to learn more about reptiles, and every opportunity for study is quickly seized.

Usually the reptile house is the last building to be erected in a zoological garden; pending which, the most exacting of all collections are cared for in makeshift ways. In our Zoological Park the Reptile House was the third building undertaken, partly because it will be one of the most attractive buildings of the entire series, and also because a portion of its ample space can be borrowed, for a time, for the use of other animals.

Work upon this building began on August 22d, and the accompanying illustration shows its foundation walls. On another page the complete ground-plan shows not only the shape of the structure, but also the various uses to which it will be devoted. It is violating no confidence to say that all parties concerned in the evolution of this building feel well pleased with the plan. It is symmetrical, comprehensive, and almost certain to produce several very pleasing results. The great central hall is unbroken by a single column, and opens across the crocodile pool and its generous sand-bank, through three huge arches, into the green, jungly mass of the conservatory. In effect, this room will appear to be one hundred and fifteen feet in length, by forty feet wide, exclusive of the reptile cages.

In the plan of this building an attempt has been made to provide, under one roof, suitable accommodations for representatives of all the orders of living reptiles and batrachians. It would be an easy matter, however, to fill all the available space with the saurians, tortoises, and turtles, lizards, serpents, and amphibians of North America alone. As we pause to contemplate the great number of species in our own reptilian fauna, the thought occurs, What are we going to do with the reptiles of the Old World? The conservatory has been designed to furnish a source of supply for the very numerous plants of all sizes that will be required for the two principal halls of the Reptile House, but it may presently be called upon to serve a purpose even greater than that. If the time ever comes that the space now assigned to reptiles is filled to overflowing, the conversion of the conservatory into a third exhibition hall will be a short and easy step.

The length of the Reptile House, over all, is one hundred and forty-six feet, and its greatest width is one hundred feet. It is being constructed of buff mottled brick, combined with granite and terra-cotta. It will be roofed with slate, heated by hot water, and its cost, with cages, will be about \$40,000. It is beautifully situated on the edge of a forest of great oaks, very near the geographical centre of the Park. Close to the southeastern corner of the building is a natural pool in a wide outcrop of granite rock, which will speedily be converted into a summer home for saurians.

It is hoped that the Reptile House can be completed by April, 1899, in time to receive its cages and collections for the opening of the Park in May.

NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY.

PROGRESS OF THE ZOOLOGICAL PARK.

On June 1, 1898, the New York Zoological Park was a tract of wild land. West of the Boston Road—where the animals will be located—and especially in the areas formerly cultivated, its wildness was so pronounced that in many places it was positively forbidding. Throughout that region, save in the dense shadows of the beautiful beech and oak forests, the face of nature was completely masked. From the ground, a tangle of tall weeds, blackberry bushes, and greenbriar grew up until they met the low drooping limbs of oak and maple—untrimmed for fourteen years past—and made the jungle complete. The finest ledges of rock were so masked by briars that only their summits were visible. The sites for Cope Lake, the Beaver Pond, and the Aquatic Rodents' Pond were overgrown with rank grass that would have done credit to the Terai of Northern India, where the tigers grow frequent and large.

Those who were engaged in surveying for the Zoological Society the lines of the various improvements to be made in the Park had no easy task. The unusually rank growth of vegetation stopped the breathing of the forest, and the heat was intense. Park Commissioner Moebus was appealed to for relief, and at once detailed a force of men to clear the undergrowth from the sites of the Bird House and Reptile House, and reduce the crop of weeds and blackberries throughout the Park. As far as possible, the mowers kept ahead of the surveyors, who were occupied throughout the spring and summer in staking out work to be done during the present year.

On May 4th the Executive Committee of the Zoological Society authorized the expenditure of \$30,000 on the construction of the Elk House, Bear, Wolf, and Fox Dens, Winter Bird House and Flying-Cage. On July 1st working drawings and specifications for all the above were submitted to the Board of Parks, and approved by that body one week later. On July 14th the Executive Committee ordered, in addition to the above, the construction of other installations for animals, one of which was the Reptile House, to cost a total of \$62,500.

On July 27th the Board of Estimate appropriated \$62,000, to be expended in accordance with the estimates that had previously been laid before that body. The funds were placed to the credit of the Department of Public Parks, to be expended under its direction. On August 1st the plans and specifications for all the ground improvements to be made with the \$62,000 were laid before the Park Commissioners and promptly approved. On August 4th the Society's plans were taken up by the Engineer of Construction of the Park Department, with the Director of the Zoological Park. On August 11th, at the request of Park Commissioner Moebus, the Society forwarded an official estimate for a maintenance fund for the year 1899, calling for \$60,000.

On August 15th ground was broken for the Winter House for Birds, and a contract was made with William Wilson for the Elk House. On August 17th work began on the construction of the Elk House, and on August 18th the plans of the Reptile House were approved by the Park Board. On August 22d ground was broken for the Reptile House. On August 29th the Park Department began the work of excavating the south pond. On September 7th work began at the Bear Dens, and on September 13th work began on the stone wall to enclose the Prairie Dogs' Knoll. A trench was dug to bed rock, the depth of earth varying from two to eight feet. The enclosure is circular in form, and its diameter is eighty feet. On September 21st the excavation for the Buffalo House was begun. On September 22d a large quantity of black soil was hauled from the south pond and deposited around trees, near the Bear Dens, that were imperilled by drought. On September 26th a force of men began to excavate for the watercourses at the Ducks' Aviary, and construct three islands. On October 10th the same force began to excavate the Beaver Pond.

ZOOLOGICAL SOCIETY WORK COMPLETED TO DECEMBER 1ST.

The Elk House has been completed in all respects, except the bark-covered slabs, and fitted for temporary use as offices and workshops.

The Bird House is ready to receive its roof.

The foundation walls of the Reptile House have been completed, and the steel floor-beams put in place.

All excavating for the first series of Bear Dens has been completed; also all plumbing for drainage and water-supply. The brick walls of the bathing-pools have been built, and stone walls to carry the iron work.

The excavation of ponds for the Ducks' Aviary, and the construction of three islands has been completed. On the south island, twelve enclosures have been laid out, with suitable shelter-houses, and about one hundred native shrubs have been planted.

A stone wall, going down to bed rock, has been constructed around the Prairie Dogs' Knoll (eighty feet in diameter), and capped with cut stone.

Excavations have been made for the walls and stone work of eight Wolf and Fox Dens, and the walls have been laid ready for the cage work. One sleeping den for wolves has been constructed.

About five hundred cubic yards of sandy earth has been hauled to the Pheasants' Aviary, to make dry ground for the runways. This was removed by necessity from the Bear Dens, at no cost to the Aviary.

The excavation for the Beaver Pond has been completed, and all the grading necessary thereto.

The excavation necessary for the Buffalo House has been made.

A trench-nine hundred and sixty-three feet in length, has been dug for the stone walls to support the iron fence for the Beaver Pond.

EXPENDITURES AND ESTIMATES.

	Cost to Date.	Estimated Cost when Completed.
Elk House.....	\$732 82	\$1,396 82
Bird House.....	1,857 62	14,395 28
Reptile House.....	1,239 98	33,678 85
Cage Work in the above.....	5,217 39
Bear, Wolf, and Fox Dens... ..	500 00	9,165 85
Four Sleeping Dens.....	600 00
Eight Sleeping Dens.....	82 00	600 00
Buffalo House.....	2,173 91
Excavations.....	1,982 29	2,756 63
Burrowing Rodents.....	71 65	1,357 65
Ducks' Aviary.....	180 10	1,680 10
Beaver Pond.....	384 51	2,068 51
Prairie Dogs' Knoll.....	74 00	588 00
Flying-Cage.....	5,000 00
Mountain Sheep's Shelter....	88.05	588 05
	\$7,183 02	\$81,267 04

ADDITIONAL INSTALLATIONS IMPERATIVELY NEEDED BEFORE OPENING OF ZOOLOGICAL PARK.

In order to accommodate a reasonably full collection of American mammals and birds; in order to enable the Society to accept gifts of tropical animals, birds of prey, and other forms, and in order to open the Park with more than two first-class buildings, the following additional buildings and installations are urgently required, and funds for their immediate construction must be provided:

	Estimated.
Monkey House.....	\$40,000 00
Antelope House, for large ungulates.....	25,000 00
Pheasants' Aviary.....	1,500 00
Otters' Pool.....	500 00
Six Shelter Houses for Deer, Moose, etc...	3,000 00
Excavating Baird's Court.....
Sea Lions' Pool.....	2,500 00
Eagles' Aviary, for birds of prey generally..	3,000 00
	\$81,500 00



EXCAVATING THE AQUATIC RODENTS' POND.

THE AQUATIC RODENTS' POND.

Near the southwest corner of the Zoological Park there has existed, from the glacial epoch until last September, a mosquito-breeding bog of fathomless mud and peat. Its permanent residents were box tortoises, pond turtles, wood frogs, and such small serpents as escaped the zeal of the men and boys who think their highest duty to mankind lies in the destruction of every wild animal. Each year added to the bog a layer of tall grass, and, except as a sepulchre for the surreptitious interment of animals of the order Ungulata, it was devoid of either use or beauty to man.

Now, it chanced that the bog in question terminated on the north against a fine tract of virgin forest, from which two long, sheltering arms of timber reached southward. The glade thus enclosed afforded three sheltered sides, admirably adapted to the needs of aviaries. Instantly it became apparent that the situation demanded the conversion of the bog into a clear and beautiful pond. Its banks should be covered with grass, sand, and gravel, and its nooks embellished with aquatic plants of species indigenous to Bronx Park.

On July 27th the Mayor and the Board of Estimate and Apportionment granted an appropriation of \$62,000 to meet the expenditures of the present year in preparing the grounds of the Zoological Park. On August 29th the work thus provided for was inaugurated by beginning the excavation for the south pond. The pond was planned by the Zoological Society, and the work involved in its execution is being performed by the Park Department for the Borough of the Bronx, Hon. Aug. Moebus, Commissioner, under the direction of Mr. Daniel Ulrich, Chief Engineer of Construction, and Superintendent Johnson.

The task of excavation has been tedious and difficult. So far as solid ground is concerned, the pond is, apparently, bottomless. Underneath two feet of rich, black

soil lies a bed of soft, cheese-like peat, in which wagons and horses would quickly become engulfed. This unlooked-for condition has made it necessary to keep the teams on the highest level of the bog, and to throw the earth out to them. Every load of this rich earth has been carefully stored up, at various points in the Park, for use in the near future.

The creation of the south pond serves four good purposes. It abates a prehistoric nuisance, it completes a charming landscape, it affords an ideal home for the otter, musk-rat, and other aquatic mammals, and it yields a valuable store of much needed soil. As to the cost of it—well, it has cost more than it would have cost had the bottom been of reasonably firm clay or gravel. Under fair circumstances, it would have cost about \$3,000. As it is, its completion will involve a total expenditure of about \$5,000; but to the Zoological Park and the public it will be worth thrice that sum.

Mr. Warren H. Manning declares that the black earth now available for forestry operations is worth the entire cost of the pond. The water will be five feet in depth, and will be supplied in a continuous stream, pumped from the Bronx River by means of a hydraulic ram, which will derive its power from the water-fall at the lower end of Lake Agassiz.

On November 7th, William Masterson began to excavate, at his own expense, a large quantity of earth from Cope Lake, to be used in completing his contract for the construction of the Pelham Avenue roadway. Since that date a large quantity of earth has been removed from the lower end of the lake, and about one-third of its entire area has been graded down to the bottom level. It is believed that an expenditure of \$1,500 of the city fund would complete the excavation of Cope Lake, provided the work were done wholly by contract. Mr. Masterson has now obtained from Cope Lake all the earth that he requires for his purpose. The earth removed was wholly clay. For many reasons it is very important that this lake should be completed before the Park is opened to the public.

NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY.

News Bulletin

OF THE

New York Zoological Society.

PUBLISHED AT THE

NEW YORK ZOOLOGICAL PARK, 183D STREET AND SOUTHERN BOULEVARD,
NEW YORK CITY.

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UNDER OUR OWN ROOF.

Ever since October 11th, the Society has had one abiding place wholly its own. On that date the director, the engineer, and clerk of the works occupied the Elk House, and temporarily established therein the offices of the Zoological Park. The wide doorways for the elk have been partly closed in and fitted with spacious double windows, and the present floors are of wood instead of concrete. The building contains two offices, a large workshop, and a loft for storage. It is very well situated for administrative purposes, and plays an important part in the development of the Park. Although neither of grand proportions nor elaborate design, its lines are odd and pleasing. It fits into the Elk Range most admirably ; and, best of all, it is Home.

THE CITY AND THE ZOOLOGICAL PARK.

Soon after the new administration came into office it was definitely learned that the new Board of Parks was very friendly toward the new undertaking, and would promote it to the limit of its power. The debt limit question made it necessary to postpone for several months our application for the appropriation to be granted by the City for ground improvements ; and when it became positively known that no new city bonds could be issued without an amendment of the Charter, the outlook was decidedly doubtful. Fortunately, however, it was learned that the Mayor was well disposed toward the plans of the Zoological Society ; and when, upon June 21st, an application for \$125,000, to be expended on ground improvements, was presented to him, it was promptly taken up by the Board of Estimate, and referred to Comptroller Coler for report. Later on it was also referred to Corporation Counsel Whalen. Both reports were favorable ; but it was declared to be impossible to provide, this year, so large a sum as \$125,000.

In view of the fact that half the year had then passed away, and that it would be almost impossible to complete all the ground improvements during the year 1898, the Society proposed that one-half the whole sum be appropriated for use during the present year, at the same time, agreeing to expend from its Park Improvement Fund an amount equal to any appropriation the City might choose to make. Without a voice being raised in opposition, the Board of Estimate at once appropriated \$62,000, and made it immediately available for expenditure by the Commissioner of Parks for the Borough of the Bronx, Hon. August Moebus, in accordance with the plans of the Zoological Society. Immediately following this action, our Executive Committee ordered that work on buildings and other enclosures for animals should be pushed with all speed, with a view to opening the Park next May, if possible. The first appropriation of the Society for this purpose was \$62,000, equalling the amount appropriated by the City. Subsequently, on November 17, 1898, the Society increased this sum to \$83,000, in order to complete the various buildings and other installations for animals which are reported in this Bulletin.

During the summer the attention of the Department of Sewers was called to the stream of sewage from Belmont, which empties into the Zoological Park and flows through Birds' Valley on the surface. Plans were prepared for a small sewer ; and Acting Commissioner Donohue, upon the recommendation of Deputy Commissioner Byrnes, applied to the Board of Estimate for \$2,250, with which to construct the sewer. The amount applied for was promptly granted, and a contract for the work was let on November 30th.

Immediately following this action the Society closed a contract for \$4,800 for the steel frame and wire work of the great Flying-Cage, and began preliminary work on the Ducks' Aviary.

NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY.

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When the estimates for 1899 were made up and presented to the Board of Estimate, Park Commissioner Moebus applied for \$30,000 as a maintenance fund for the Zoological Park for six months. This appropriation has been approved by the Board of Estimate, and it will become available on January 1, 1899, both for the care of animals and the care of the Park.

The City, therefore, has provided maintenance, and is now expending \$62,000 in the development of roads, walks, drains, and other ground improvements. During the coming year it will be necessary to expend at least a similar sum, as all these improvements are of a permanent character, and therefore expensive. It is a subject for congratulation that the Zoological Park has now become one of the established institutions of the City. The Society extends its best acknowledgments to the Mayor and his colleagues, and renews its pledge to do its utmost to make the Zoological Park a source of benefit, pleasure, and pride to all the people of the metropolis of Greater America.

WORK ABOUT TO BE UNDERTAKEN BY THE CITY.

	Estimated.
Walks of stone and gravel, from 12 to 20 feet in width, 134,000 square feet.....	
Croton water pipes to reach collections, to be installed in 1899.....	
Sewers leading from first buildings, aviaries, and dens.....	
Service road of Telford macadam from Southern Boulevard to Reptile House..	
Drainage as necessary for roads, walks, and buildings.....	
Macadamizing corrals for large animals...	
Fencing for animal ranges, corrals, and boundary of Park.....	
Expended to date on pond excavation....	10,000 00
To be expended on pond excavation	4,500 00
Balance available for restaurant.....	500 00
	2,000 00
	<hr/> \$62,000 00

THE MONKEY HOUSE AND THE ANTELOPE HOUSE.

These two buildings should be completed before the Park is opened, because together they comprise such an important part of the initial exhibition of animals. To do this, it is necessary to raise immediately \$75,000. The money which has already been subscribed (\$106,000) by friends of the Zoological Park does not admit of the erection of either of these buildings, because \$83,000 already appropriated will be needed to complete work now under way, and there must be a reserve of \$25,000 for the purchase of animals, in addition to those which will be presented by various members and friends.

As the final plan has already been published, the public will naturally anticipate, when the Park is opened, that the great buildings around the Baird Court will be completed. It will be several years, however, under the most fortunate circumstances, before this Court will be in final shape; and to gain by the experience in the construction of the earlier buildings, it will probably be an advantage not to push these very large and expensive ones forward too rapidly.

A careful inspection of the list of installations now under construction will convince our members that the Society's pledge, to provide first for the unrivalled series of our own North American types, is being faithfully carried out. The present expenditure from the Improvement Fund of \$106,000 provides for the greatest possible number of important American quadrupeds and birds. In our loyalty to our own splendid fauna, foreign animals have thus far been treated as of secondary importance.

But unless more money is raised, no provision can be made for the quarters of foreign creatures, chiefly from the tropics, that will come knocking at the gates of the Zoological Park as presents and otherwise demanding admittance, for these animals can only be housed in the Monkey House and Antelope House. The former

building, while ultimately to be filled entirely by monkeys, baboons, apes, lemurs, etc., is so designed as to afford a home for several types requiring artificial heat in winter which are not provided for in the Antelope House. The Antelope House, on the other hand, will afford a temporary home for the tapirs, elephants, zebras, and other tropical animals. In other words, these two buildings are especially selected because of their adaptability for the care of the great variety of animals which come from warm climates. The Monkey House will serve to complete one corner of Baird Court, and the Antelope House will be in the southern portion of the Park, near the great Bison Range.

The New York Zoological Park should, in fact, be so well equipped with buildings, dens, and aviaries, that by midsummer, 1899, no type of animal need be turned away because there is no place in which to put it. Beyond question, as soon as this institution is opened, and lovers of animals see how comfortably—nay, even luxuriously—the various types of wild animals are being housed and cared for, gifts of birds, quadrupeds, and reptiles will come in from all parts of the world; and we certainly should be prepared to receive them. *Under no circumstances would it be advisable to expend the money which has been so generously contributed in the erection of temporary structures for collections.* The experience of foreign zoological gardens is all against structures of a temporary character, as in the end wasteful. Every building that is erected will, therefore, be of the most permanent and substantial character. If an elephant is offered as a gift, and the Antelope House is not in existence, that elephant must of stern necessity be declined with thanks and regret. A museum and art gallery or a library can store away in cellars and garrets the gifts which it cannot at once exhibit; but with a zoological park this is impossible. Once accepted, an animal must be placed on exhibition in roomy and comfortable quarters, where it will thrive and improve from day to day; and any animal which cannot be so installed must be declined. It is extremely desirable, therefore, that no animal offered as a gift, or offered for sale "at a bargain," need be refused because of the lack of accommodations.

As above stated, the Monkey House, if erected now, will give up one room to small mammals other than primates, until the small mammal house is ready. The Antelope House is designed to furnish good roomy quarters for many other species than the hooved ungulates of the tropics—namely, elephants and rhinoceroses, as well as the hippopotamus—until the Elephant House is an accomplished fact. It can even receive temporarily a few large birds, such as the ostrich, cassowary, emu, and the like.

There are other imperative reasons why these two buildings should be erected forthwith. Both will be models of their kind, as they are designed after a most careful study of all buildings of the same type in Europe. Either of these buildings would constitute a splendid gift on the part of any person who would take pleasure in associating his name with the founding of the new Zoological Park. The Society has thus far not asked for the gift of single buildings; but surely it is not too much to expect that the Antelope House, estimated at \$30,000, or the Monkey House, estimated at \$40,000, may come as the gifts of individuals. The plans and elevations of these buildings can be forwarded to any address by application to the Director.

CHANGE OF ADDRESS.

The office of the undersigned has been moved from 69 Wall Street, New York, and established permanently in South Bronx Park. All mail and express matter for him should now be addressed thus:

NEW YORK ZOOLOGICAL PARK,
183d Street and Southern Boulevard, New York City.

The Park offices of the Zoological Society are temporarily located in the Elk House, near the S. W. corner of the Park. The office of the Secretary, Madison Grant, Esq., remains at No. 11 Wall Street, as heretofore.

The Zoological Park is reached hourly by the Harlem road from Forty-second Street to Fordham Station (22 minutes), or by Third Avenue elevated to Tremont, and on by trolley to Fordham, from whence a carriage can be taken to the Park for 25 cents for each person.

WILLIAM T. HORNADAY,
TELEPHONE NO. 146 TREMONT.

Director Zoological Park.



AT WORK ON THE BEAR DENS.

HOMES FOR THE BEARS.

In mediæval times it was considered the proper thing to keep captive bears in deep pits of heavy masonry. The lines of Bruin's ground plan became quite familiar, but his front and side elevations were subjects for perpetual conjecture.

Save in a very few of the oldest zoological gardens, the old-fashioned bear cistern is a thing of the past. Hanover contains a splendid ursine castle of cut stone, with battlements galore. Berlin has a very fine bear installation—a tasteful and well-planned structure of cut stone and iron, fit for the capital city of a great and enlightened nation.

With the polar bear, the big brown bears of Alaska, our grizzlies, and various species of the black bear, we can make up a superb collection without even setting foot beyond our own territory. For the species of bears which can live out-doors all winter, the New York Zoological Park will contain nine large, paved yards, enclosed by steel bars, with an overhang so arranged that climbing out is impossible. Four of these enclosures are now ready for the cage work, and their present appearance is shown herewith. Each enclosure measures 32×70 feet. The main floor lies in the bottom of a notch which nature has cut across the top of a high ridge, and against a fine wall of rock about twenty feet in height. The iron-work is carried up the face of this ledge, and along the top about fifteen feet back from the edge, thereby affording the bears abundant opportunity for climbing.

Ample sleeping dens, of yellow pine, soaked in oil, will be constructed at the foot of the rock ledge, and completely masked by artistic stone-work, built to match the ledge itself. The total cost of the four dens now under construction will be about \$12,000.

FOREIGN ZOOLOGICAL GARDEN NOTES.

During the summer months Professor Osborn visited all the principal zoological gardens of Europe, and made a number of additional notes and observations in the interest of our Society.

The Jardin d'Acclimatation in Paris, while not equal to the best of the gardens in Germany, contains certain fine features which are very similar to some of those about to be developed in our Zoological Park. These are, especially, the ranges for some of the larger types of animals. For example, the members of the Antelope family in large ranges are not only in fine physical condition, but are freely breeding and constantly adding to the collection. The most unique case of breeding in captivity is that of the sea-lions in the same gardens, who produce a fine sea-lion pup annually, apparently because in connection with the pool is an extensive retreat within the trees and bushes.

In the course of this tour it was learned that great interest exists abroad in regard to the development of the New York Park; and everywhere the desire was expressed to further our project, both by plans and information. The impression is very general that New York is an Eldorado, and that unlimited means are at our disposal for the development of the most perfect park in the world. We trust our members will live up to this reputation, and co-operate with the Managers in spreading interest and raising funds for this great project. One cannot visit the foreign gardens without returning with fresh enthusiasm and faith in the Zoological Park, both as a great means of public education and as an inexhaustible source of pleasure.

Among the newer features in the foreign zoological gardens are the beautiful flying-cages, which are in many cases superbly stocked with birds; and the special feature of the Berlin flying-cage is a section which is covered with glass, in which the herons and other birds are nesting in great numbers. The new house for storks and cranes in Berlin is a delight to the eye, being of Japanese design; but it does not seem well suited to its purpose. The attempts which have been made in various gardens to suggest by the exterior design the types of animals which occupy the interior have not proved



LOWER END OF BEAVER POND.

wholly successful. The elaborate and beautiful Elephant House in Berlin, with its many-colored roof, seems to be suffering from the weather, and is difficult to keep in repair. The new houses in the London Zoo, for the accommodation of the larger types of birds and certain of the smaller herbivora, are very similar in design and construction to the buildings which we are now erecting, although of a much less costly character.

In the Paris Garden, upon a very small scale, is a pony tramway, by which visitors can take the complete tour without fatigue. This reminds us of our project to circuit the garden by the means of auto-motor carriages, which will be certainly a matter for future development.

The very easy means of access to most of the foreign gardens from the centres of population suggest that the transit problem is one which must be energetically taken up. All the foreign gardens, excepting Antwerp, are attended at times by enormous crowds of people, and derive the larger part of their income from paid admissions: for there are positively no free days. In Berlin the restaurants of different grades, adapted in price to the demands of different classes of people, also furnish a very large revenue. As our Park is upon the good American principle of being entirely free to the public, and as the Society proposes to stock it very extensively with animals, as well as to supply the principal buildings, it presents a model of the democratic type of park which is entirely unknown in Europe. It must depend upon liberal personal contributions, and generous support from the city.

ZOOLOGICAL PARK NOTES.

Mr. Warren H. Manning, formerly associated with the firm of Olmstead & Elliott in Boston, has been engaged to study the Zoological Park, especially with reference to the present and future tree planting, and to the system of walks and roadways in the approved plan, minor changes in which can be made if it appears desirable. Mr. Manning has had extensive experience as a landscape architect, and it is believed that his advice will be very valuable.

Mr. A. Phinnister Proctor, the animal sculptor, whose works have appeared at the Court of Honor at the World's Fair and elsewhere, has been invited to submit preliminary designs for certain carvings to adorn the front of the Reptile House. These will be cut into the pilasters upon either side of the entrance, both for ornament and to suggest the purpose of the building. The broad stone pedestals flanking the main steps leading up to the building are especially designed for reptilian sculptures, which it is expected will be placed there eventually. In connection with each of the principal buildings of the Zoological Park, there are opportunities for sculpture, both in the terra-cotta work and in the approaches; and members of the Society will become interested in this feature of the artistic development of the Park.

* * *

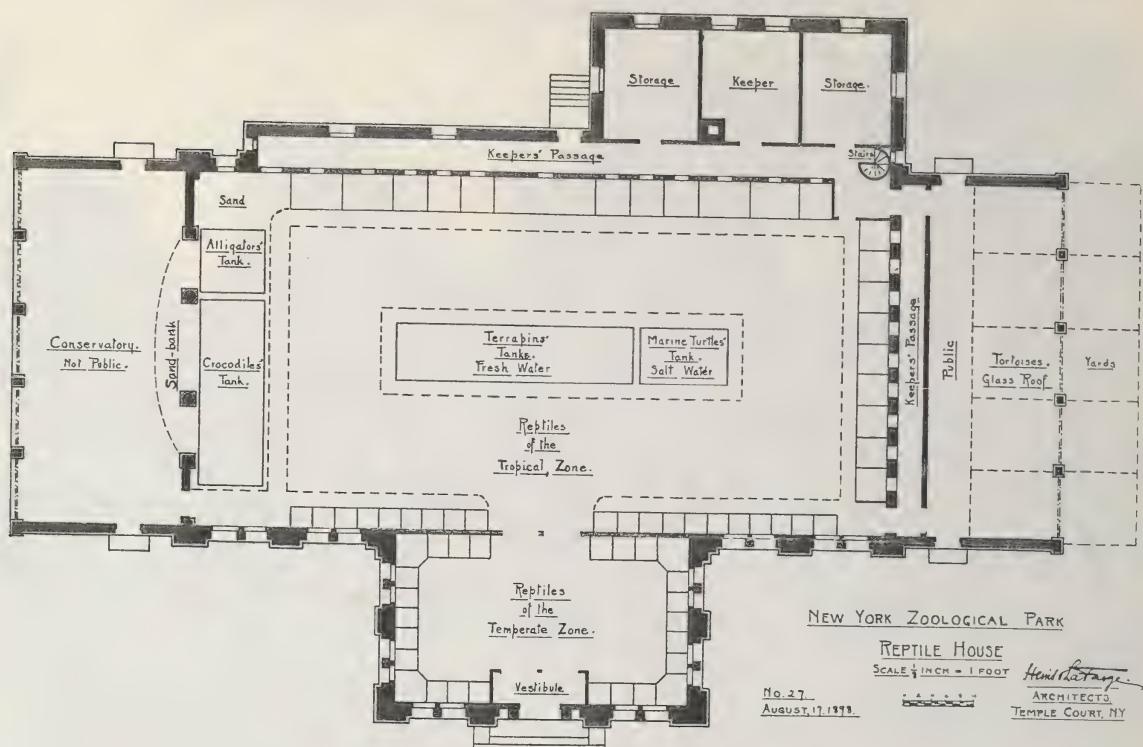
One of the indirect objects of the Society is to encourage animal painting and sculpture. As an indication how this purpose is regarded, it is proper to note the fact that already two sculptors and three animal painters announce their intention of establishing their studios in the immediate vicinity of the Park, as soon as the collections are received. It is evident that the fine types of native and foreign animals which will be constantly upon exhibition will afford admirable opportunities to artists, and will give a long-needed impetus to the decoration of our public buildings with animal forms, both in painting and in sculpture.

* * *

It has long been apparent to the Zoological Society that in many portions of the Zoological Park special efforts must be put forth to save certain groups of trees growing in thin soil, on rocky ridges, and now threatened with death. In the immediate vicinity of the Bear Dens, there are now twelve dead trees standing on an area of about four acres. Trees that die must be replaced, and much planting must be done along the southern and western boundaries of the Park.

With this work in view, the Society eagerly seized the opportunity to obtain from the excavation made for the Aquatic Rodents' Pond great stores of rich, black soil which have been deposited at ten different points in the Park, selected according to the needs of the future. In addition to this, black earth has been deposited around thirty-five trees in the vicinity of the Bear Dens, to enable them to live through such dry seasons as have been so destructive to other trees in that locality.

NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY.



GROUND PLAN OF THE REPTILE HOUSE.

CONCERNING THE PURCHASE OF ANIMALS.

The Zoological Society is in receipt of so many inquiries regarding its intentions concerning the purchase of animals for the Park, it is desirable that some information on this subject should be published.

First of all, let it be stated positively that the Society does not propose to engage men on salaries, to travel about for the purpose of capturing wild animals. The cost would be too great, and the results too meagre, to justify such a method. Nor does the Society propose, in very many cases, to attempt to purchase animals that are running wild, and have not consented to be caught. Occasionally, however, when a rare and particularly desirable species is wanted, a standing offer will be made to buy a certain number of specimens at stated prices and under stated conditions. As a general rule, most attempts to buy animals previous to their capture end in disagreement, or disappointment to at least one of the parties concerned. "First catch your hare," is a rule which is as sound in selling animals as in cooking them.

As a general thing, it is necessary for every zoological garden or park to patronize responsible dealers in live animals and resident collectors. From hard-earned experience they know how to crate and ship animals to the best possible advantage. They know that it is unwise to forward a diseased or deformed animal, and they also know beforehand something about values—which saves much time. Not unfrequently it happens that a hunter who captures an animal that to him is strange, imagines that it is worth double its real value, and feels indignant when a zoological garden offers him what is really a fair price. In about nineteen cases out of every twenty, the man who captures a wild animal thinks it is worth far more than it really is. For example, if we were to offer a farmer's boy \$2.50 for a wild goose that he had caught and cooped, the chances are he would be highly indignant; but at this moment we know of thirty-two wild geese for sale, properly crated, at that price.

If we were asked to name the greatest small annoyance that comes in the daily mail of a zoological park, we would reply:—the letters which say, "What will you give me for it?" Very often not the slightest clue is given to the size, age, sex, or condition of the captive animal. All these are left to be divined by the man who is asked to submit an offer. Occasionally, however, it is possible to fix the value of an animal, if it is fully and fairly described.

The Zoological Society will not be ready to place any orders for

animals before January, 1899; and nothing can be received earlier than April. It is hoped that some of the owners of large private game preserves will present to the Society enough animals to start the herds of buffalo, elk, and deer, and that all friends of the Society will do their utmost to bring about the presentation to the Society of a large number of desirable specimens. If the Monkey House and Antelope House are erected at an early date, the Zoological Park will then be able to receive and care for any animal that may be offered to it.

When the Zoological Park is ready for animals, all members of the Society, and also friends who are not, are expected and requested to do their utmost to secure, as gifts for the Park, a large and continuous supply of fine, typical quadrupeds, birds, and reptiles, especially of North American forms.

ADVANTAGES OF MEMBERSHIP.

Among the advantages of membership in the New York Zoological Society are, first of all, the satisfaction of taking part in a great popular enterprise of the utmost interest to every lover of Nature and her works. The direct practical benefits to members are as follows: Admission to the Zoological Park on the two days of each week when to the general crowds it will be closed, except upon payment of an admission fee; the privilege of the library building, the library, and its picture collections; the receipt of the Society's publications, many of which will undoubtedly possess considerable artistic and literary value, and will be free to members only; the privileges of all lectures, receptions, and special exhibitions. In brief, the time will soon come when the Society will give ample returns for the assistance of those who come forward helpfully during the initial stages of its work.

Applications for membership should be addressed to Madison Grant, Secretary, No. 11 Wall Street, or to the Director of the Zoological Park.

There is no initiation fee. The yearly dues for Annual Members are \$10. The Life Member's fee is \$200; Patron's fee, \$1,000; Associate Founder's, \$2,500; and Founder's, \$5,000. Subscriptions should be made payable to the New York Zoological Society, and addressed to the Secretary.

NEWS BULLETIN OF THE ZOOLOGICAL SOCIETY

Number 4.

Issued by the NEW YORK ZOOLOGICAL SOCIETY, 11 Wall St., N. Y.

May, 1900.



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ALLIGATOR POOL IN THE REPTILE HOUSE.

IN THE REPTILE HOUSE.

There seems to be no question regarding either the attractiveness of the Reptile House, or its fitness to meet all the requirements of its living contents. It is only the echo of public sentiment to assert that it is a success. On all Sundays it is densely crowded with visitors; but were it five times its present size, standing room would be at just as high a premium as now.

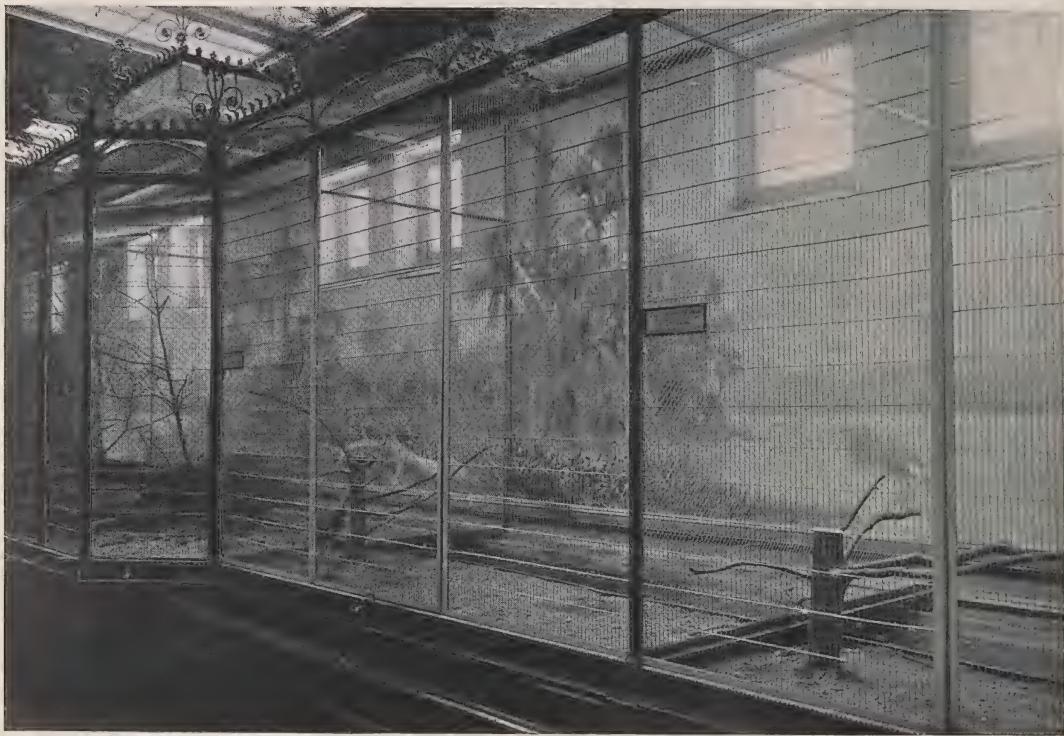
The interior of the building is lofty and dignified, and the view down the main hall, from the eastern end toward the Alligator Pool, is highly impressive. More palms are needed, very urgently; but at present it is impossible to find any which can be purchased without money. With a very insignificant allowance of funds, Mr. Merkel has contrived to make a surprisingly creditable showing of plants, not only on the main floor, but in the conservatory and the reptile cases. All the plant furnishings have been arranged with excellent taste and judgment.

The experimental Turtle Crawl in the centre of the main hall, and the big Alligator Pool, have both resulted satisfactorily. Both these installations are quite new in design. They show off the living reptiles to good advantage, and the reptiles in them are in excellent health. The alligators are so comfortable and contented they have all become quite tame, and even friendly. "Jumbo" has added four inches to the original twelve feet one inch which he brought up from Indian River, Fla., last July.

The fine condition of all the reptiles testifies more forcibly than words to the intelligence and industry of Mr. Ditmars and his assistants in the Reptile Department. Time after time, lizards of the larger species which have arrived in a very emaciated condition, and refusing all food, have been seen to revive in the genial warmth of the large cases, begin to eat, and in a month's time become actually swollen with prosperity.

The building carried its contents through the past winter very successfully, not a single specimen having been lost through cold, and there is no further occasion for anxiety on that score.

The most striking and novel feature of this building is the pool and gravel banks for large Crocodilians. Heretofore, in all other reptile houses which we have examined, these animals have been installed in masonry tanks in the central floor space, in which anything like natural surroundings are quite unattainable. No amphibious animal should be kept in a stone box, seeing nothing of the world save the roof which covers him. In this installation the necessity for a conservatory in connection with the Reptile House has been utilized to the utmost, thereby securing not only an abundance of light, but also a pleasing background of tropical verdure, which greatly softens the effect of the concrete rim of the pool. The pool is 35 feet long by 9 feet wide, contains four feet of water, on a bottom of white gravel, and is warmed to 95° by concealed pipes of hot water.



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SIDE CAGES IN THE BIRD HOUSE.

THE MOULTING OF THE BIRDS.

All persons who are interested in seeing how some of our most beautiful water birds change both the quality and the color of their plumage in passing from the "immature" period to the "adult" stage of life, will do well to visit the New York Zoological Park, immediately.

The plumages, notes and nesting habits of our native small birds, can be studied in the field with a fair degree of accuracy, but in the case of larger and more wary species, it is much more difficult. It is in completing the life-histories of this latter class of birds, that a commodious aviary renders the greatest assistance to the naturalist. In the Aquatic Birds' House, which contains a Flying Cage of no mean proportions, its well adapted conditions for keeping birds in confinement are shown in the prompt adaptation of these creatures to their new environment. This is manifested in their regular and complete moults, their bright colors, their immediate acceptance of nesting facilities, and also by their activity. Many species spend the day in feeding, preening their feathers or playing, instead of unnatural moping or unnecessary sleep, as is the case with so many captive birds. If we may judge from the testimony of the birds, this building is a pronounced success.

The nesting attempts of our Egrets, Snake-birds, Ducks and Burrowing Owls, and the highly differentiated and often intricate notes of many birds, are all very interesting, but today the moults and plumage development of some of the birds in the Aquatic Birds' House are even more so.

A pair of those martyrs of millinery—Snowy Egrets—are fast approaching the prime of their breeding plumage, their immaculate white feathers, and long, graceful plumes, contrast sharply with their black legs and yellow feet. They are living refutations of the absurdly false statement that their plumes drop off naturally, while in their perfect condition. As a matter of fact, murder, cruel and bloody, must be committed before these "aigrettes" deface a hat! Their larger cousins, the American White Egrets, are not so far advanced, but in a month they will vie with their smaller relations in beauty and length of plumes.

During the winter, the color of the Little Blue Herons has caused many people to mistrust the scientific knowledge used

in labelling the birds, but the pure white immature plumage of these herons is now quite rapidly being replaced by the slate-blue coloration so characteristic of the adult bird, several stages in the transition being visible at present. The European Flamingoes and Tadorna Sheldrakes show marked gradations in the intensity of coloration in bill and feathers, and the curious, unexplained caruncles on the bills of the latter birds have attained their maximum size.

The radical change from the immature to the adult plumage of the Yellow-crowned Night Heron, has just begun, and the occipital plumes are as yet barely noticeable. A pair of Scarlet Ibises are exhibiting two very different phases of plumage. One has nearly completed the spring moult, and is a glowing mass of scarlet, especially on the wings. The other is in a half-way condition, presenting a curious pied appearance, alternating scarlet and light rose.

The sober gray plumage of the immature Brown Pelican contrasts strongly with the rich yellow, chocolate, silvery gray, and black, of a full-plumaged adult bird.

As to the smaller birds, a system of outdoor feeding, together with the sense of perfect security, is making the Park at large a favorite resort for our native birds. As early as February 14, a pair of English Starlings began to nest in a hollow branch within a few feet of the Bird House, and judging from the abundance and tameness of our winter species, bird-lovers should be able to make numberless intimate acquaintances with heretofore little known feathered friends.

C. William Beebe.

SIDE CAGES OF THE BIRD HOUSE.

Dead walls behind live animals are an abomination unto Nature.

At first the painting of landscapes in oil colors on the walls behind these cages seemed like a hazardous experiment; but Mr. Robert Blum made the idea a complete and gratifying success. On the western wall is depicted, in soft and pleasing tones, an actual scene on the edge of the Florida Everglades—a favorite haunt for water-birds. On the eastern wall is a marsh landscape, with distant hills; and so perfect is the atmospheric effect that half a dozen times the Demoiselle Cranes have attempted to walk through the wall! These side cages are intended solely for water-birds, but at present they are obliged to accommodate birds of several other orders.



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THE POLAR BEARS.

CONTENTED BEARS.

Barring the three Orang-Utans, there are no animals in the Zoological Park which furnish more amusement than the bears. From the small Grizzlies up to the huge Polar Bears, they all devote their waking hours to boxing, wrestling, climbing and chasing each other. Without exception, all are good-tempered animals, and their antics are a source of endless amusement to visitors, both old and young. Needless to say, this daily exercise—much of it quite violent—is of incalculable benefit to the animals, especially to those which are yet young and growing. The hope that the rocks and trees in the dens, and the generous floor space, would lead the bears to exercise vigorously, has been realized beyond all expectations.

As a practical illustration of the effect of a large den upon an animal quite out of condition, the case of our Florida Black Bear is rather interesting. A year ago this animal was found in St. Augustine, where for six years it had lived in a cage eight feet by five. Barring his close confinement, he had been quite well cared for, and his great size (for a southern black bear) made him so desirable that he was purchased. He reached the Zoological Park in July, but the incomplete state of the Bear Dens made it necessary to keep him two more long months in his original cage. Meanwhile nearly all of his hair came off, and his skin assumed a very unhealthy appearance. He was dieted carefully, fed and rubbed with sulphur, and in October set free in one of the Dens.

Poor fellow! Freedom was to him so new and strange that for days he knew not what to do with it. Like the liberated prisoner who kept saying "Once one is two," he took up a position close to the front bars, and scarcely moving his hind quarters, marched his head and shoulders to and fro, a thousand times a day, just as he had done for six long years. When he was forced to walk about, it was seen that, from long disuse, his hind legs and feet had become almost paralyzed.

To-day he is one of the handsomest bears of the eleven in the dens. His coat is thick, jet-black and glossy, his skin is in perfect condition, and his wrestling bouts with the stockily-built animal from Rat Portage (Sir Roderick Cameron's gift)

are both wonderful and amusing. It seems very absurd to see a huge black bear, weighing nearly six hundred pounds, wrestling and tumbling about like a cub six months old. He has fully recovered the use of his hind legs, climbs fearlessly, and in the enjoyment of freedom, fresh air, and the companionship of his kind, he is working very hard to make up six years of lost time.

Already the eleven specimens in our collection of bears cover a wide range of geographical distribution. The two Polar Bears came from Nova Zembla, two of the Grizzlies came from the Cook's Inlet country, Alaska, and one from the mountains of Colorado. One Black Bear represents Colorado, another Northwestern Canada, another hails from the Adirondacks, and the largest of all, save the Polars, is the Florida specimen mentioned above. The latest acquisition is a fine young Japanese Black Bear, which reached New York via Yokohama.

Several of these animals are now making haste to shed their weather-worn winter coats, and make ready for summer visitors. None of them hibernated, though the Colorado Black Bear came very near doing so. The Polar Bears slept out doors all winter—in order to obtain a satisfactory amount of cold air—and to-day our only anxiety in regard to our bears is due to them. Owing to lack of funds, the special den for these animals has not yet been constructed; and no one knows when it will be. The den in which they are temporarily quartered contains a bathing tank amply large for a land bear, but ten times too small for a pair of marine monsters, who spend half their time at play in their pool. They play so much and so vigorously that they have worn half the hair off their backs and hind quarters against the masonry sides of their small tank. At present, their tank is filled only every other day, but in a short time it must be filled every day, or the animals will suffer; and a pair of hairless Polar Bears will be the result.

"What is to be done about it?" I do not know; but if some good friend would send us to-day a check for \$2,500, to be used in constructing a proper swimming pool for these magnificent animals, to-morrow would see ten good men at work on an admirable answer to this question. The question is—can that good friend be found?

News Bulletin

OF THE

New York Zoological Society.

PUBLISHED AT THE

NEW YORK ZOOLOGICAL PARK, 183D STREET AND SOUTHERN BOULEVARD,
NEW YORK CITY.

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A CALL FOR NEW MEMBERS.

With the means at our command, we have done our utmost to establish a Zoological Society which will cover a wide field of usefulness, and a Zoological Park of which you may be proud. The latter is now open, on a modest basis to be sure, but it is sufficient to serve as an object lesson regarding our aspirations, and an index for the future. Visit it, and inspect it, as soon as possible; then ask yourself these questions:

Is this Park a great boon to the toiling and pent-up millions of Greater New York?

Is it an institution of permanent value to all lovers of animated nature, to students, writers, artists, sculptors and zoölogists generally?

Is it a good place for New York's grand army of children?

Will it presently rank high among other institutions of its kind throughout the world?

Will it be a credit to Greater New York, and the nation?

From this time henceforth, the Park must speak for itself. To be sure, it is yet in a new and unfinished state, but enough has been done to show the general scope of the Society's scheme. Beyond question, it is not going to be a small or cheap affair.

If you answer the above questions in the affirmative, then pray consider this: *Entirely aside from the funds that will be furnished by the city, the Zoological Society must expend annually, of its own funds, about \$30,000!* This is needed for the purchase of animals, the issue of publications, for lectures, for scientific work, the promotion of animal painting and sculpture, for the library and picture gallery, for the preservation of our native animals, and many other purposes.

The Society is pledged to provide all the living animals, and this alone means a heavy annual expenditure.

In all this work, the Zoological Society asks your active and continuous support. It invites you to become a member, *immediately*, in whatever class you may prefer, and also to interest your relatives and friends. Think what power for the good of all concerned could be wielded by 3,000 annual members, paying \$30,000 as annual dues! On such a basis, the benefits to the individual member would soon be worth double the amount of his annual dues of \$10. The greater the membership, the greater the benefit to members.

But the men and women who build up great national institutions of science, art, and learning, are not inclined to pause and ask, "What is there in this for me?" Americans are no more mercenary, nor more fond of wealth, than are the people of other nations; and no people on earth are more ready to give, and give handsomely, to every good object, than are the people of New York.

With the Zoological Society, this is a critical moment. The Executive Committee has been very heavily burdened, not only in planning for Park work, but in the difficult task of soliciting subscriptions for building operations. At this moment it needs the encouragement that the incoming of 2,000 new annual members would give. Leaving out of consideration the satisfaction which every public-spirited man feels in aiding a noble cause, will not the privileges of membership in the Zoological Society be worth to you and your family more than ten dollars per year? If you answer this question in the affirmative, please communicate with Madison Grant, general secretary, 11 Wall Street, and name the class of membership to which you desire to be elected.

If you are already a member, pray send in the application of at least one other person.

W. T. H.

THE OPENING OF THE PARK.

After twenty years of unnecessary waiting, New York at last possesses an institution for the exhibition of live animals, founded on a scale commensurate with the dignity of a city of the first rank. During the entire history of this city down to 1895, not one serious effort, not one move worthy of mention, was made in behalf of the establishment of a zoological garden or park worthy of this great and wealthy city.

Forty years ago, when Central Park was laid out, the landscape architects made the mistake of providing five acres in the southeastern corner of that great pleasure ground for a menagerie. That would have answered very well for a small town, but never for one moment was it adequate or suitable for the metropolis of the Western Hemisphere. The menagerie thus established has, beyond doubt, been the chief factor—though quite innocently, so far as its sponsors and supporters were concerned—in postponing the creation in New York of a proper zoological garden or park while scores of smaller cities broke ground and built up institutions of great beauty and usefulness. While New York has slept on her rights, Philadelphia, Cincinnati, Antwerp, Rotterdam, Hanover, Hamburg, Frankfort, Cologne, Manchester, Copenhagen, Calcutta, and even Saigon—hidden in the jungles of Cochin China—have all made for themselves zoological gardens worthy of the name.

We speak lightly of "the effete monarchies of Europe," but America has deliberately permitted even the very smallest of them to lead her in zoological garden development. And this, too, despite the fact that the vertebrate fauna of North America is so rich and varied. In zoological garden work, America has too long occupied a rear rank. The richest and most populous city, the literary, scientific and financial centre of North America, is expected to set an example for other cities.

At last the spell has been broken; and to-day, though very incomplete, the Zoological Park of Greater New York is an

accomplished fact. The foundation has been laid, and a goodly portion of the superstructure has been completed and occupied. The people as a whole have done a portion of the goodly work, but private generosity and private enterprise have done more.

But our task is only one-third of the way toward completion. The private effort represented by the Zoological Society stands pledged to donate \$80,000 more within eighteen months, and the people have recently provided \$300,000 for the continuation of the improvements which are needed to render the Zoological Park more completely available for the use to which it has been devoted. In view of the long years of delay that have elapsed in the founding of this institution, the remaining sum to be raised by subscription should be furnished promptly and cheerfully, in order that we may, to some extent, make up for lost time. It is beneath the dignity of Greater New York to allow this enterprise, involving but a comparatively small expenditure, to languish and halt through lack of additional funds.

of these creatures. This tank, divided into ten compartments by plate-glass partitions, contains the market terrapins, such as the "Slider," or Cumberland Terrapin; Troost's Terrapin; the Rough-shelled Terrapin; the Geographical, and the expensive "Diamond-back," which during certain phases of the champagne season occasionally, at the larger markets, sells at sixty dollars per dozen. With the exception of the last-mentioned species, the dealers class all market terrapins under one head "Sliders." Thus from a large shipment of "Sliders," which arrived at a downtown market, we selected specimens representing four species.

Besides these favorites from the markets, which for the most part inhabit the brackish marshes of the South, a specimen well worthy of attention is the big Green Turtle, whose habitat embraces many seas. This interesting creature occupies the marine tank, containing "artificial" sea water. Its peculiar movements, as the long flippers are brought into play, suggest the graceful soaring of the hawk, or the flight of the turkey buzzard.



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THE DUCKS' AVIARY.

TURTLES, TERRAPINS, AND TORTOISES.

A little over eight months ago, the entire reptile collection of the Zoological Park numbered exactly three specimens—a snapping turtle, and two small terrapins—confined in a tub in the storage yard, where wild animals were then arriving. To-day, the reptile collections, on exhibition in a structure second to none of its kind in the world, contain over five hundred specimens, in which all the various orders of the class Reptilia are well represented.

From the three turtles, which formed the humble nucleus of our present extensive assemblage of reptiles, the collection of Chelonians has increased to eighty specimens, representing twenty-eight species, which embrace a proper proportion of the land and water varieties.

In the long Turtle Crawl, in the main hall of the Reptile House, the Terrapins, forming an important section of the Chelonian collection, live contentedly in as near a state of nature as it is possible to provide for them. On one side of this commodious tank, with its sand banks and growing plants, bark-covered slabs from a large tree have been fastened to imitate the derelict timber which floats about the haunts

Passing along the Turtle Crawl, the visitor finds living representatives of what, perhaps, he never anticipated observing outside the pages of zoological nomenclature. From beneath a mossy log protrude four snake-like heads. A close examination will reveal that the necks are equally "snakey," and terminate in a small black shell. These strange little creatures, appropriately called "Snake-necked Turtles" (*Chelodina longicollis*), came from Australia, a land of monstrosities, where the zoological aspect of everything has assumed eccentric proportions. Although water turtles, they possess the typical caudal appendage of the land tortoise. Their necks are so long that withdrawal into the shell in time of danger is a physical impossibility. Hence, when alarmed, this singular reptile lays its head and neck sideways close against the fleshy part of its body, well under the edge of its shell.

In another compartment, a little family of Pond Turtles (*Nanemys*) roost happily on a log, while a look into an adjoining enclosure might lead the visitor to think that the brilliant orange patches on the surface of the water were in the shape of aquatic foliage in full bloom. This proves to be, however, only a friendly conference among specimens of the



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A PORTION OF THE ELK HERD.

Gift of Mr. Geo. J. Gould and the Brooklyn Park Department.

dainty Orange-necked or Muhlenberg's Turtle (*Chelopus muhlenbergi*), rare little fellows, of very limited distribution. Their beauty places in strong contrast the formidable appearance of the huge Alligator Terrapin, or "Snapper," and the flabby soft-shells (*Aspidonectes*), as the latter stare at nothing in particular, with a perpetual look of extreme surprise.

During the winter months, the members of the Tortoise group, comprising about eight large species, have occupied temporary cages. In summer, these creatures will be placed in small yards outside the building. The north sand-bank of the Alligators' enclosure, however, has been arranged to accommodate some of the larger species, which form a highly attractive exhibit. Here are quartered two large Nubian Tortoises, the larger weighing about forty pounds. They were but recently imported by Carl Hagenbeck, and are believed to be the only living members of the species in this country. Each specimen cheerfully consumes nearly an entire head of cabbage at a meal. Among these land Chelonians is a beautiful representative of the South African Geometric Tortoise (*Testudo geometrica*). The dome-like shell, scribbled with various hieroglyphics, makes this creature unique among its kind.

Far different are the habits of the tortoises from those of their aquatic relations. The latter scramble like a drove of chickens for the generous hand of their keeper, casting all dignity aside to satisfy their appetites. The former are always stately in their movements, and dignity seems to be with them a ruling passion. A tempting mixture of rice, bananas and lettuce, provokes the slow appearance of plated heads. The dark eyes blink solemnly, then begins a deliberate advance toward the feeding tray. Each mouthful is deliberately studied, until at last there is a slow retreat to favorite corners, and sleep intervenes until next feeding time.

It is rarely that turtles and tortoises in captivity enjoy the commodious quarters given them in the Reptile House of the Zoological Park. It is hoped that in the near future, visitors may observe the interesting process of raising the young

reptiles, as many eggs have been deposited in the sand-bank along the Terrapins' Tank. These would not be the first young reptiles to appear in the Park, however, as about seventy snakes of three different species have been born during the past few months, and the new arrivals are all in a thriving condition.

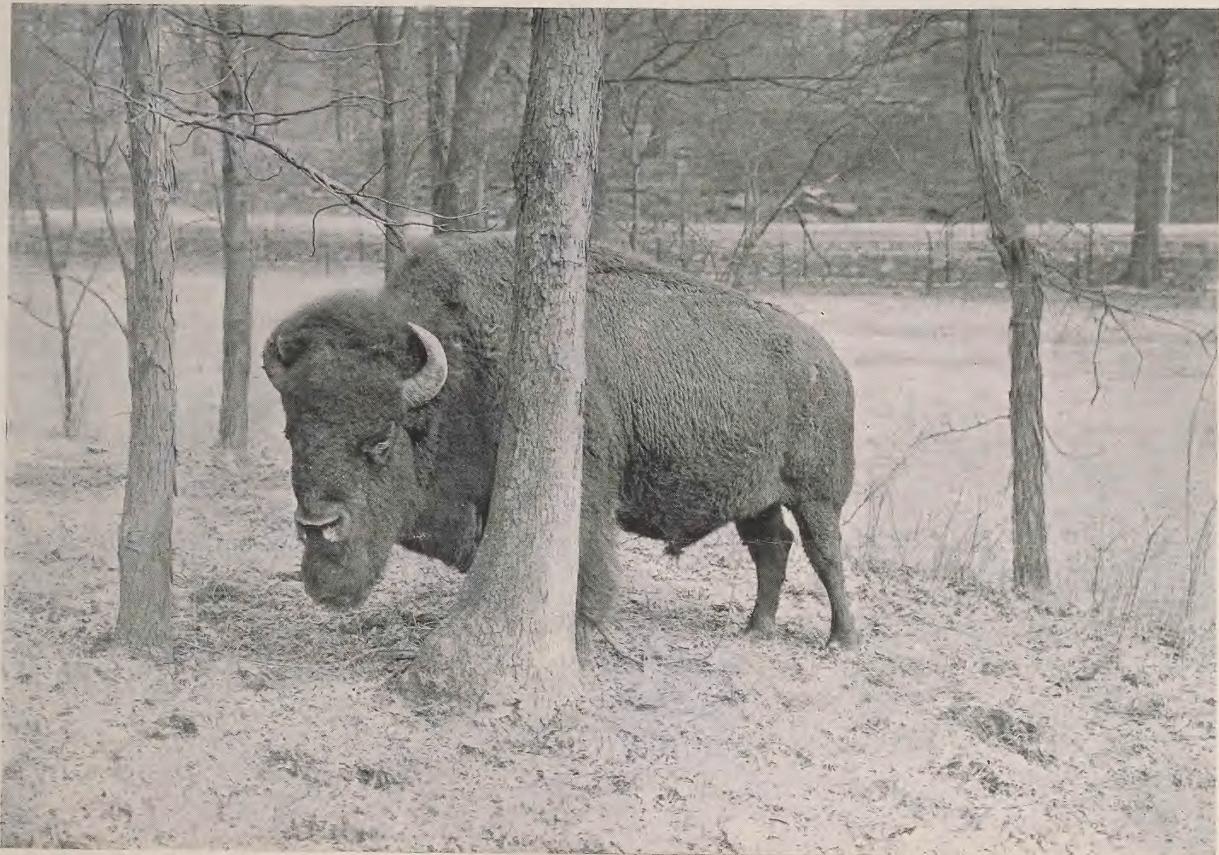
Raymond L. Ditmars.

AS OTHERS SEE US.

"The time has come for a great art school for studying animals." This is the dictum of Mr. Ernest Seton Thompson (whose work as an animal painter does not enjoy the world-wide reputation it deserves) in a vigorous paper read before the Zoological Society of New York a couple of years ago. . . . And the Society has acknowledged the justice of the artist's plea for better opportunities of study by giving facilities which will be the envy of their less fortunate brethren in Europe. . . . We venture to think that in providing facilities for students at their new menagerie in Bronx Park, the New York Society gives one of several proofs that it regards its mission as that of popular educator.

The New York Society does not indicate that they propose placing dead specimens at the disposal of art students for anatomical purposes. We could hardly expect an explicit declaration which would be somewhat suggestive of anticipated disaster in a young society; but they have done that which promises in course of time to make America the headquarters of animal painting.

When planning the houses and dens for the new park, they kept Mr. Thompson's representations in view, and ascertained by careful inquiry that there were many young artists and sculptors who made animal portrayal their specialty, and who only required encouragement and facilities for study in order to develop into a "school" in the sense artists use the word. Fully alive to the importance of pictures as a means of stimulating popular interest in animal life—a sentiment it is eminently desirable to foster in America, whose great game is being steadily and surely killed down to extermination—the Society have designed their premises to include, in many cases, studios into which it will be possible to transfer cages containing any animals required as models, and which will be furnished with all the conveniences necessary for students. The executive of the New York Society goes further than this in pursuance of its policy to systematically encourage animal painting and sculpture. . . . Our animal painters have now powerful rivals in America, and it is greatly to be hoped that the scheme of the New York Society may awaken the spirit of emulation at home.—*The Asian Sporting Newspaper*.



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AMERICAN BISON.—“CLEVELAND.”

Gift of Hon. Wm. C. Whitney. Captured wild in Panhandle of Texas, in 1887, by C. J. Jones.

RAPID TRANSIT TO THE ZOOLOGICAL PARK.

When the site of the Zoological Park was chosen, in 1896, the Society builded even better than it knew. It was admitted that existing street railway facilities were very inadequate, but in the firm belief that a great popular institution would soon bring them, South Bronx Park was chosen.

The terminus of the eastern branch of the great rapid transit system, to be completed in three years, will be situated within three hundred feet of the West Farms entrance to the Zoological Park! Briefly stated, this means—from the Brooklyn Bridge to the Buffalo Range in twenty-five minutes, for five cents. If this possibility does not cause every Brooklynite to feel that the Zoological Park is partly his, nothing ever will do so. If this does not place the summer shade, the coolness and restfulness of that sylvan spot within reach of the children of the crowded tenements of Manhattan, nothing ever will.

For some time past, we have been aware of the location of the eastern terminus of the great tunnel, and have awaited with bated breath the development of the scheme. Within a week after the acceptance of Contractor McDonald's bid, the Society drafted a bill providing for the expenditure of \$300,000 more in the preparation of the grounds of the Zoological Park for the use of the crowds that will flock to them the moment rapid transit to the Park is an accomplished fact. The walks and roads already constructed are not much more than one-third of what will be required when visitors begin to come at the rate of 50,000 per day. We shall do our part toward taking every possible advantage of the three years to elapse before the completion of the tunnel. The crowds of 1903 will find us ready for them.

THE SEA LIONS.

Pending the completion of the Sea Lion Pool in Baird Court, the California Sea Lions are permitted to usurp the summer rights of the Crocodilians, and occupy the Crocodile Pool, between the Reptile House and Bear Dens. Two fine rock dens were built last year, at the south end of the Pool, and by keeping them well filled with straw, and the pool free from ice during the winter, the four Sea Lions came through the winter in good condition. It was noticed that during the coldest weather, they had very little to say; but no sooner did the frogs in the Beaver Pond begin to croak than the Zalophii began to make the Park resound with their cheerful barking.

GENERAL INFORMATION.

ADMISSION.—On all holidays, and on Sunday, Tuesday, Wednesday, Friday, and Saturday, admission to the Zoological Park is free.

On every Monday and Thursday, save when either of those days falls on a holiday, only members of the Society, and persons holding tickets from the Society, are admitted free. All others pay twenty-five cents for each adult, and fifteen cents for each child under twelve years of age. Tickets are sold only at the entrances.

When a regular pay-day falls on a legal holiday, the following day will be a pay-day for that week.

OPENING AND CLOSING.—From May 1st to November 1st, the entrance-gates will be opened at 9 A.M. and closed half an hour before sunset. From November 1st to May 1st the gates will open at 10 A.M.

BICYCLES must be checked at the entrances (five cents). All wheels not called for half an hour before sunset will be locked up until the following day.

LUNCH ROOM.—Until the Rocking Stone Restaurant has been completed, a lunch room, where excellent food will be served at popular prices, will be maintained in the extreme eastern end of the Reptile House. Enter directly from the main walk.

PARK SEATS.—Two hundred park settees have been placed in the Zoological Park, along the walks and in shaded situations.

WALKS.—All the walks in the Park are now receiving their final surface of broken rock and crushed blue-stone, which will render them perpetually smooth and clean.



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YOUNG FEMALE WOODLAND CARIBOU.



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YOUNG MOOSE.

HOW TO REACH THE ZOOLOGICAL PARK.

VIA WEST FARMS.—The Boston Road entrance is four blocks from the terminus of the following trolley lines which converge at West Farms: Third Avenue and Boston Road line from 129th Street; the Southern Boulevard line; Tremont Avenue and Westchester line, and the Williamsbridge and Mount Vernon line. Visitors to the Park over any of these lines should alight at West Farms, from whence a walk of four blocks up the Boston Road leads to the southeast corner of the Buffalo Range.

VIA THE THIRD AVENUE ELEVATED.—At present the terminus of the Third Avenue Elevated Railway is at Tremont Avenue (177th Street), and visitors coming from points south of 129th Street will do well to take the Elevated to that point, transfer to the Tremont Avenue trolley, and, for a total fare of eight cents, land at West Farms. In a short time the Third Avenue Elevated Road will reach Pelham Avenue at Fordham.

VIA THE THIRD AVENUE TROLLEY LINE.—Visitors desiring to reach the Northwest Entrance, instead of going to West Farms, should alight at Pelham Avenue and either walk to the entrance or take a carriage (twenty-five cents).

VIA THE HARLEM RAILWAY.—A very convenient and quick way to reach the Park from lower New York is to take the Harlem Railway from Grand Central Station to Fordham Station (twenty-five cents for the round trip). On week days, morning trains leave Forty-second Street at thirty-five minutes past each hour, except 11.15, and every half hour between 12.15 and 4.15 P.M. On Sundays, trains leave hourly all day at fifty minutes past each hour. Alight at Fordham Station, not Bedford Park, from whence a carriage may be taken to the Park for twenty-five cents for each person. Distance, half a mile.

VIA THE SIXTH, EIGHTH, AND NINTH AVENUE ELEVATED.—The most expeditious way to reach the Zoological Park from the west side is by elevated cars to 135th Street, thence by the 135th Street trolley line, transferring again to a West Farms trolley-car at 138th Street and Third Avenue.

BY CARRIAGE FROM LOWER NEW YORK.—Persons driving to the Zoological Park from lower New York should drive up Jerome Avenue to Fordham Road; thence eastward over Fordham Road to Pelham Avenue one mile and a quarter to the Northwest Entrance to the Park. Until the carriage entrance is constructed, there is no entrance for carriages into the grounds occupied by the animal collections, but the Boston Road leads through the most beautiful portion of the Zoological Park.

LATEST ARRIVALS.

One Buffalo ("McKinley"), 3 Moose, 1 Axis Deer, 2 Dorcas Gazelles, 2 Muntjacs, 7 Squirrels, 2 Porcupines, 1 Golden Cat, 2 Civet Cats, 1 Binturong, 1 Japanese Bear, 2 Black Macaques, 1 Slow Lemur, 4 Cassowaries, 2 Nicobar Pigeons, 1 Red-breasted Merganser, 1 Cuban Parrot, 2 Reticulated Pythons, 3 Gila Monsters, 7 Tortoises.

ADVANTAGES OF MEMBERSHIP.

Among the advantages of membership in the New York Zoological Society are, first of all, the satisfaction of taking part in a great popular enterprise of the utmost interest to every lover of Nature and her works. The direct practical benefits to members are as follows: Admission to the Zoological Park on the two days of each week when to the general crowds it will be closed, except upon payment of an admission fee; the privilege of the library building, the library, and its picture collections; the receipt of the Society's publications, many of which will undoubtedly possess considerable artistic and literary value, and will be free to members only; the privileges of all lectures, receptions, and special exhibitions. In brief, the time will soon come when the Society will give ample returns for the assistance of those who come forward helpfully during the initial stages of its work.

Applications for membership should be addressed to Madison Grant, Secretary, No. 11 Wall Street, or handed to the Director of the Zoological Park, at his office, in the Elk House.

There is no initiation fee. The yearly dues for Annual Members are \$10. The Life Member's fee is \$200; Patron's fee, \$1,000; Associate Founder's, \$2,500; Founder's, \$5,000; Benefactor's, \$25,000. Subscriptions should be made payable to the New York Zoological Society, and addressed to the Secretary.

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